

PARTIAL Index.

NO Flexure Tests

Spectr. Temp. Dome Temp./Hum.

2017

5 pg#1 TUES-WED

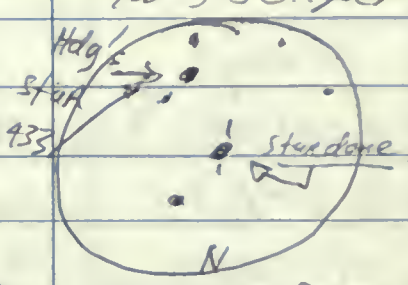
Date 1991 MAR 12/13. Observers T. [Hdy].....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCFO 0890-119 CCFO 0911-119	Comp posn / Stellar posn		3ci/4ci	18 52		01 00W	+53 20	FeAr CLEAR	90s
833	BIAS(4)								
834	Comp			19 13				FeAr CLEAR	90s
835	HD 197433	20 38.6	+75 14	19 17 40	19 28 40	9 54W			
836	Comp	20 40.6	+75 32					FeAr CLEAR	90s
837	HD 197433	IF HD 197750		19 40	19 46 40	W			
838	h		In June 96	19 51	19 57 40	W			
839	Comp								90
840	HD 197433			20 05 00	20 12 40	W			
841	HD 197433	HD 197750 KO		20 14 20	20 23 40	10 48W	De circle		
842	WRONG STAR	V=8.1		20 25 50	20 36 00	11 00W	+75 45		
843	Comp						De circle	FeAr CLEAR	90s
844	HD 197433	20 38.6	+75 14	20 53 30	21 01 00	11 28W	+75 28		
845	v	v	"	21 02 10	21 08 50	11 36W			
846	"	"	"	21 11 35	21 18 15	11 46W			
847	Comp						CLEAR	FeAr	90

Spectr. Temp. -1.7°C Dome Temp./Hum. -1.7°C 65% Transparency Conditions FINE 6
 Focus 6.7 pg#1 500.0 24 1024 4 1 CCD FWH
 Spectr. Temp. Dome Temp./Hum. CCD T = -101.7°C 30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Cell	1800/5.5	250x	5890A			About 1 pixel shift blue for stellar Full slit length 1.2 mm	
								1ci		400 550 x pixel	
								2ci			
1390	2"	V 7.3-7.7	G3+K7					5ci ✓	HD 197432		
800								1ci ✓			
780								2ci ✓	1450 2700 SUM AVG ADU of 3 columns		
								3ci			
870	2.3"							3ci ✓	1400 SUM AVG ADU of 3 cols,		
930								4ci ✓			
940	2"							6ci	Stellar expts to here are of wrong star.		
1350	2.4"	V 7.3-7.7	G3+K7					1ci	Hdg pgr	2 K ADU SUM AVG of 5 cols	
1160								2ci	2		
1120								3ci			
								4ci			

7

#2

Emulsion Batches:

Date 1991 MAR 12/13. Observers T.G. [Hdy.] ... m.ki. help

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC00848	HD 197433	20 38.6	+75 14	21 2314	21 2954	11 56W			
CC00849	"	"	"	21 3033	21 3725	12 04W			
850	Comp					<u>11 56E</u>	clear	FeA	90s
⁸⁵¹ -853	FLATS (3)	3.0 sec.				11 30W	+75 30		
854-55	DARKS	20 min & 10 min respectively							
From 308 to 311	HD 82582	09 27.46	+47 20.45	22 10		00 19E	+47°	'N' made	
CC00856	Comp			22 40		10 54E	clear	FeA	90s
CC00857	HD 197433	20 38.6	+75 14	22 44	22 5040	E			
858	"	"	"	22 5250	22 59 30	10 33E			
859	"	"	"	23 0046	22 07 26				
860	Comp			23 1200					90
861	HD 197433			23 1200	23 1840				
862	"			23 20 00	23 2640				
863	"			23 28 00	23 3440				
864	Fe-A								

Spectr. Temp. Dome Temp./Hum. $-35^{\circ}C$ 70% Transparency Conditions FINE 8
 Focus ... G7 ... pg #2
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
920				CCD CASS	1800/51.5	250 μ	5890A	4ci ✓	Slit Length	Longest, 1.2mm	
								5ci ✓			
								6ci			
									$\approx$ 10K ADU/pixel		
								6ci			
not up from 31x31 pixel box)				Light	N Wind	4x	Integroth			Dome NW	
								6ci		Tipup @ 2220	
1325	4"	$\checkmark$ 7.3-7.7	G3+K7					8ci ✓	Hdy_pgm	VW Cap	
1485								7ci			
1330								9ci			
1265											
								10ci			
1348								11ci			
										11ci 11ci	

9

#3

Date 1991 MAR 12/13...

Observers M.K. - T. [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
865	HD 197433			23 41 56	23 48 36				
866	"			23 49 00	23 55 40				
867	"			23 56 40	00 03 20	E			
α 00868 Afs	Comp						Clear	Fedr	90
869	HD 197433			00 08 10	00 15 00				
870	"			00 15 33	00 22 13				
871	"			00 22 40	00 29 20				
872	Comp						Clear	Fe-A	90
873	HD 197433			00 33 52	00 40 32				
874	"			00 40 50	00 47 30				
875	"			00 48 00	00 54 58				
876	Comp			01 00 30	01 07 10			Fe-A	
877	HD 197433			01 00 30	01 07 10				
878	"			01 08 30	01 15 30				
879	"			01 16 02	01 22 42				
					(01 24 25)				

Spectr. Tem.

Focus.....

Spectr. Tem.

Exp. Mir.

1470

500

1600

1493

1240

1330

200

1100

1320

1400

1400

Spectr. Temp. Dome Temp./Hum. -4°C 68% Transparency Conditions ... CLEAR photometric 10
 Focus 6.7 #13
 Spectr. Temp. Dome Temp./Hum. Note - Set time indicates exact correlation to Astro Elect

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1470				CCD-CAS Blue Coll	1800/51.5	252	5890A	12ci		VW Cep	
1500 1500								13ci			
1600	3"							14ci			
								14ci			
1493	4"							14ci			
1240	4.5"							15ci			
1230	4"							16ci			
								17ci			
1200	4"							17ci	$\approx 2K$ AD4 SUM AVG for 5 cols		
1100	4"							18ci			
1320	3"							19ci			
								19			
								19ci		VW Cep	
1600	2-3							21			
1900								22		Wait a bit longer...	

#4

Emulsion Batches:

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Spectr. Temp.

Focus

Spectr. Ten

Exp. Mtr.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Nr.
								Type/Filter	Exp.	
CC00880	flats Comp							Fear	90s	
881	HD 197433			01 30 20	01 38 46					2000
882	"			01 39 20	01 46 00					1730
883	"			01 46 40	01 53 20					
884	Comp									
885	Bias(4) HD 197433									
886	HD 197433			01 59 40	02 06 20					1835
887	"			02 07 00	02 13 40					1813
888	"			02 14 40	02 21 20					1780
889	Comp						Clear	Fear	90s	
890	HD 197433	20 38 6	+75 14	02 25 40	02 32 50	07 01 E				1650
891	"			02 33 40	02 41 00					1880
892	"			02 42 00	02 48 40					1900
893	Comp							Fear	90s	
CC00894 896	Flats (3)						Clear	JUNGAs		

Spectr. Temp. Dome Temp./Hum. -4.1° 65% Transparency Conditions ... Not Photometric now
 Focus 6.7 but Fine enough 12
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								23c			
2000								23c	blue wing coarsening		
1730								24c			
								25			
1835								26c	2400 SUM	AVG ADU of 4 cols	
1813								27			
1780								28			
								29			
1650								29	2800 SUM	AVG ADU of 7 cols	
1880	2"							30			
2000	<2"							31			
								32			
								32	13K ADU	fixed mux	

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#5

Emulsion Batches:

Date 1991 MAR 12/13.. Observers T.T.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC00897-ft	HD197433	20 38.6	+75 14	02 55 50	03 02 30				1970
898	"	"	"	03 03 20	03 10 00				1960
899	"	"	"	03 13 10	03 19 50	6 14E			1815
900	Comp								
901	HD197433			03 27 00	03 33 55				1850
902	"			03 35 08	03 42 10				
903	"			03 47 30	03 54 10				1300
904	Comp								
905	HD197433			03 58 00	04 04 40				1432
906	"			04 05 40	04 12 20				1400
907	"			04 12 40	04 19 20				1390
908	BIAS(4)								
909	Comp						clear	F&R 90	
910	HD197433			04 27 05	04 33 50				1335
911	"			04 34 50	04 41 30				1680
912	"			04 42 00	04 48 40				1605

Spectr. Temp. Dome Temp./Hum. -44°C 62% Transparency Conditions Clear 14.

Focus 6.7

Spectr. Temp.

Dome Temp./Hum. -5.5°C 62%

All Instr parameters the same all night

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1970	4.2"	^V 7.3-7.7		CCD/CASS Blue Coll				32	Hdy-pym	(About 1 mag/page)	
1960								33		4 mag left still	
1815	2.3							34		<u>odd one?</u> <u>Cosmic Rays?</u> <u>many</u>	
1850	4.2"							35			
								36		^A (One dorsal sym line)	
1300	3.5"							37	(dbl again 38)	CCDT = -102.0°C	
								38			
1432								38		^{comp} blue st stronger	
1400								39			
1390								40			
1335								41			
1680								42			
1600								43			

15

#6

Date 1991... MAR 12/13. Observers Ta.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
CC00913	FLS Comp					4 43E	Clear	FeAR	90s	
914	HD197433	20 38.6	+75 14	04 59 00	05 05 40	4 28E				2110
915				05 06 00	05 12 40					5386
916				05 13 20	05 20 00					2510
917	Comp						Clear	FeAR	90s	
918	HD197433			05 24 05	05 30 45					2450
919	"			05 32 00	05 38 40					2236
920	"			05 39 10	05 45 50					2220
921	Comp								FeAR	90s
922	FLATS (3)	(100 TSCALE)		05 56			Clear	TUNG	400	
925	BIAS (4)			05 55						

Transparency Conditions *Clear Still* 18

Pg #6

Dome Temp./Hum. ... -6°C ... 67%

[illegible]

17pg#1

Wed Thurs

Date 1.9.91. M.H.R. 13/14. Observers ... T.L.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
926	Comp			19 09			clear	FeA	90
927	HD 87901	10 03 03	+12 27	19 14 50	19 15 50	3 45E			
928	"	"	"	19 16 50	19 17 50				
929	Comp							FeA	90s
930	BIA'S(4)								
931	932						clear	TUNG	10s
933	Comp DARK			19 35	19 50				900s
934	Comp			19 50			clear	FeAr	90s
935	HD 197433	20 38.6	+75 14	19 54 30	20 04 30				10m
936	Comp at HB						clear	FeAr	90s
937	Comp at H ₂			20 08 30			clear	FeAr	120s
938	HD 197433			20 12 35	20 19 25		Doc Circle +75 28		
939	"			20 25 20	20 32 00				
940	"			20 32 40	20 40 20	11 10W			
941	Comp							FeAr	120s
942	FLAT							TUNG	2sec

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mr.

30k

45k

1530

1380

1550

Spectr. Temp. Dome Temp./Hum. 0° 66% Transparency Conditions ... Fine again! 18

Focus 6.7

Spectr. Temp. Dome Temp./Hum.

CCD T = -100.3 @ 19 EST

500 0 24 1024 4 1 CCD UNIT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	1800/ *	250u	4860A	1	H β Region	* G = 4800 Long est 1 slit	
30K		1.47	B7V					2	Regulus	4500 max/pixel	
45K								3	Toluric Std	6000 " /pixel	~25K ADU
								4			Sum AVG of 8 cols
								1ci	2 used too		
								1.5 ci			
								2ci			
								1ci	H β		
								4ci			
								5ci	H β		
		7.3-7.7	G3	CCD CASS	1800/56.5	250u	6620A	5ci	H α	G = 6055 6525A TO 6715A	
1530								6ci		3200 ADU SUM AVG - 6 cols	
1280								7ci			
1550								8ci			
							6620A	9ci			

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#2

Emulsion Batches:

Date 1991 MAR 13/14... Observers Tn... [Hdg].....

previous page 15 sec behind Astro. (now set time to Astro clock)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC00943	Comp					11 43W		FeAr	120s
944	HD 197433	20 38.6	+75 14	21 05 14	21 13 44	11 43W			
945				21 14 35	21 21 15				
946				21 21 50	21 28 30	11 58W			
947	Comp							FeAr	120s
948									
949	Flats (2)					10 ^h W	+75 30		2 ^s 2.75
950	BIAS (4)			21 43					
951	Comp							FeAr	120s
952	HD 87901			21 52 40	21 53 40	01 02E +12			
953	"			22 03 20	(22 06 00 approx)				
954	Comp						Clear	FeAr	120s
955	DARK 15min								
956	Comp for VW HD 197433						Clear	FeAr	120s
957	HD 197433	20 38.6	+75 14	22 58 00	23 04 40	10 26E			
958	"	"	"	23 05 35	23 12 18				
959	"	"	"	23 13 35	23 20 15				

Spectr. Temp. Dome Temp./Hum. -1.5°C 72% Transparency Conditions $v. sl. hazy$ 20
 Focus 6.7 pg #2
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Ccd	1800/	250 μ	[H α]	9ci		To 6670Å band and H α central better	
1790	2"	^V 7.3-7.7	G3+K				[6560Å]	9ci			
1560								10ci			
	3"							11ci			
								12ci			
								13		8K MAX/pixel	
								14		10.6 MAX/pixel	
								2ci			
50000								15ci	Tel skd	MAX 6K/pixel ~20K ADU sum AVG of 3 cols	
(90000 saturates)!								16ci		saturated in Red-Redline	
								17ci		-101.8 CCD T	
								1ci			
1600							6560Å	18ci	Hdy pgn	-101.6°C CCD Temp	
1550	4"							19ci	n		
1400								20ci	11		

21

#3

Date ... 1991 MAR 13/14 .. Observers T.H.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC00960.fts	Comp						Clear	Fel	120
961	HD 197433	20 38.6	+75 14	23 24 50	23 31 50	E	+75 36		
962				23 33 45	23 40 25				
963				23 41 00	23 47 40				
964	Comp						clear	Fel	120s
965	MD 197433			23 54 20	00 01 00				
966	"			01 20	00 08 02				
967	"			08 30	00 15 10				
968	Comp			00 18					90
969	MD 197433 BTSSX(4)			00 22 40					
970	MD 197433			00 25 00	00 31 40				
971	"			00 32 00	00 38 40				
972	"			00 39 30	00 46 30				
973	Group.			00 50 00					
974	MD 197433			00 52 30	00 59 15				

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

1250

1230

1200

1450

1400

1300

200

200

200

Spectr. Temp.

Focus . . . *6- f. still*

Spectr. Temp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD-CBS Blue Coll	1800/	250	Hd	21ci		G=6020 gratings Angle	
1250								21		26/ = str	
1230								21			
1200								22			
								23			
1450											
1400											
1300.									(prob 25ci)	Very narrow Hdr	
								26		F.E.-A.	
1200.										VW Cep.	
1200								27		Seeing worse.	
1200.								28			
								29			

23

#4

Date ... 1991 MAR 13/14. Observers ... T. ... M. Ki. [Hdy]...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
975	HD197433	20 38.6	+74 15	00 59 33	01 06 13	E			
976	"			00 07 40	00 14 20	0815E			
977	Comp						clear	FeAr	120
978	FLAT						+75 30	TUNG	27sec
979	Comp						clear	FeA	120s
980	HD199492			01 28 11	01 43 20	08 01 E			
981	Comp						clear	FeA	120s
982	Comp						clear	FeA	120s
983	HD197433	20 38.6	+74 15	01 55 20	02 02 00	07 27 E			
984	"			02 02 30	02 09 10				
985	"			02 14 00	02 20 58	07 09 E			
986	Comp						clear	FeAr	120
987	HD197433			02 25 20	02 32 40				
988	"			02 33 15	02 40 25				
989	"			02 41 20	02 48 00				
990	Comp						clear	FeA	120

Spectr. Tem

Focus...

Spectr. Tem

Exp. Mir.

1634

1450

1850

1800

1900

1600

Spectr. Temp. Dome Temp./Hum. ... -2.5°C 74% Transparency Conditions ... *Fine* 24
 Focus ... 6.7 #4
 Spectr. Temp. Dome Temp./Hum. ... -2.4° 69%
All setup pers the same.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CAS Blue Coll	1800	250 μ	6560A	30			
								31ci			
										11.6K ADU PIX/pxl	
										1.7Meg left	
	4-6"							32ci	RAW Sep	3600 Adu Sun Ave 7cols	
								33ci		3600 Adu Sun Ave 7cols	
1634	4" 3.8"			13-77 G3+K				33ci			
1450								34ci			
1850	3"							35			
1860	3"							36			
1900								37			
1600	2"							38			
								39			

25

#5

Date . MAR. 13/14 Observers ... J. H.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
CC00 991	HD 197433	20 38.6	+75 14	03 01 30	03 08 15	E				1300
992				03 01 30	03 15 27					860
993				03 16 10	03 22 50					1250
994	Comp						clear	FeA	120	
995	HD 197433			03 29 00	03 35 40	5.54E				1408
996	"			03 36 20	03 43 00					1437
997	"			03 46 30	03 53 10					1600
998	Comp						clear	FeA	120	
999	HD 197433			03 58 50	04 05 40					1300
CC01000	HD 197433	20 38.6	+75 14	04 06 20	04 13 40					1655
1001	BIAS (4)									
1002	HD 197433			04 16 10	04 22 56					1650
1003	Comp						clear	FeA	120	
1004	HD 197433			04 29 00	04 36 40					2026
1005	"			04 37 15	04 43 55					6000
1006	"			04 44 30	04 51 10					2010

Spectr. Temp. Dome Temp./Hum. Transparency Conditions ... *Fine* 26
 Focus ... *6-7*
 Spectr. Temp. Dome Temp./Hum. *Note* Intruder (s) on Catwalk (outside) @ 240
 phoned Police, They checked, it out.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1300	4"	✓ 7.3-7.7		CCD Cass Blue Coll	1800/	250a	6560	39	Long 1.7mm S	lit Length	
860								40		clouds	
1250								41			
								42			
1408	4"							42		single Hx (narrow)	
1437								43			
1600								44			
1300	3"-5"							45			
1655	3"							46		dbl	
1650								47 ✓			
								48			
2026	2-3							48	3 400 ADU	Sub Avg of 5 cols	
2000	n							49			
2010	n							50			

#6

Date 1991 MAR 13/14 Observers Tn

Emulsion Batches:

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Spectr. Temp.

Focus

Spectr. Ten

Exp. Mir.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mir.
CC 01007	fts Comp							Clear	Felt	120s
1008	HD 197433			04 59 30	05 06 10					2120
1009	"			05 07 00	05 14 10					20 90
1010	"			05 15 10	05 21 50					21 00
1010	Comp						clear	Felt	120s	
1011	Comp						"	"	"	
1012	HD 218537	23 03 43	+63 06	05 36 25	05 46					7300
1013	Comp						clear	Felt	120s	
1014	FLAT						"	TUNG	2.7s	
1015	BIAS (4)									
1016	SKY	during setup		06 08	06 14					5500

28

Spectr. Temp. Dome Temp./Hum. ⁻³⁰ 65%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS	1800/	250	H ₂				
2120	2.3"							51			
2090								52			
2100	3"							53		too many ci's 27 Lost? bug? empty cache message	
								53			
								1ci		5K ADU sum of 5 cols	
7300	4"	6.3	B3V					2ci	Teluric Std (nics)	narrow Abs red of H ₂	
								3ci		CCDT = -100.2°	
								3ci		11K ADU/pixel max	
5500											
										Topup @ 0610 AM	
										All ftp to Perseus	

Date 1991 MAR 14/15 Observers Pdr T.

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Exp. Mit.

Transparency Conditions . . . cloudy 30

Focus ~~5.0~~ 7.0

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Note stellar shift at 6.7 set / CCD CASS was at +3 pixels too Blue Blue Coll Moved Set from 6.7 $\rightarrow$ 7.0 and with simple oplot. expanded in X, judged shift to be $0 \pm .5$ pixel @ 7.0 set.											
10700					MAX ADO				Regulus	MAX ADU 3000	
30000									SUM AVG ADU = 32000 over 10 columns	MAX ADO 10000	
										4-12 K ADU/pixel	
All to Pearson											
& to WORM											

31

Date 1991 Mar 15/16 Observers [Hdy] / Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01023	Comp			20 25				FeNe Clear	20 ^s
1024	HD 197433			20 31 20	20 38 00				
1025	" "			20 41 30	20 48 10	11 26 W			400 ^s
1026	" "			20 49 00	20 56 13				
1027	Comp			20 58				FeNe Clear	20 ^s
1028	HD 197433			20 59 20	21 06 00	11 43 W			
1029	" "			21 06 30	21 13 10	11 51 W			
1030	" "			21 13 30	21 20 10	11 58 W			
1031	Comp			21 24					
1032	Bias (4)			21 37					
1033	Flats (2)			21 44		11 58 W	+75 35	TUNG Clear	15 ^s
1034	Flats (2)			22 36		10 46 E	+75 35	"	15 ^s
1035	Comp			22 43					
1036	HD 197433			22 52 00	23 00 20				500 ^s
1037	"			23 01 40	23 10 00	10 12 E			
1038									
1039									

Spectr. Ten

Focus

Spectr. Ten

Exp. Mir.

184

953

2000

1930

1874

1740

170

1750

Spectr. Temp. $+1$ Dome Temp./Hum. $+1^{\circ}\text{C}/61\%$ Transparency Conditions *Clear* 32

Focus 7.0

535 0 24 1024 41 ccd/smt

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit*	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	600/24.9	250 μ *	3960 A	1ci	G=2550	H + K region	
1841	4"							2ci	VW Ceph		
1953								3ci		Cent λ ADU = 260	MAX ADU = 333
2000								4ci			
								5ci			
1930								6ci			
1874								7ci			MAX ADU = 317
1740								8ci			
								9ci			
											MAX ADU = 11900
								10ci			
1670								11ci			MAX ADU = 391
1750								12ci			MAX ADU = 353

33

#2

Date 1991 Mar 15/16 Observers [Hdy]/Pdr/Mki

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01040	HD197433	20 38.6	+75 14	23 11 20	23 19 40	10 01 E			
1041	Comp							FeNe Clear	20 ^s
✓ 1042	Comp			23 37					20 ^s
✓ 1043	HD197433			23 41 20	23 49 40	9 32 E			
✓ 1044	" "			23 51 00	23 59 20	9 21 E			
✓ 1045	" "			00 06 10	00 14 30				
✓ 1046	Comp							FeNe Clear	20 ^s
✓ 1047	HD197433			00 24 20	00 32 40	8 49 E			
✓ 1048	" "			00 33 30	00 41 50	8 40 E			
✓ 1049	" "			00 44 20	00 52 40				
✓ 1050	Comp								
✓ 1051	HD197433			00 58 30	01 06 50				
✓ 1052	HD197433			01 07 40	01 16 00				
✓ 1053	"			01 17 03	01 25 23				
✓ 1054	Comp.								20 ^s

Spectr. Ten

Focus...

Spectr. Ten

Exp. Mir.

1840

1980

2140

2370

2260

060

Spectr. Temp. Dome Temp./Hum. $20^{\circ}\text{C}/61.4\%$ Transparency Conditions *Clear* 34

Focus ... *7.0*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1840	<i>4.5</i>	<i>V</i> <i>7.3-77</i>			<i>SUM AVG ADU = 1920</i> <i>@ λ_{central} over 10 cols</i>			<i>13ci</i>	<i>VW Cep</i>	<i>MAX ADU 338</i>	
								<i>14ci</i>			
								<i>15ci</i>			
1980					<i>SUM AVG ADU = 2020</i> <i>@ λ_{cent}</i>			<i>16ci</i>			
2140								<i>17ci</i>			
2370					<i>(SUM AVG ADU = 1980)</i> <i>@ λ_{cent}</i>			<i>18ci</i>			
					<i>(SUM AVG ADU = 2000)</i> <i>@ λ_{cent}</i>			<i>19ci</i>			
2260								<i>20ci</i>			
2060								<i>21ci</i>			
								<i>22ci</i>			
								<i>23ci</i>			
								<i>24ci</i>			
								<i>25ci</i>			
								<i>26ci</i>			

33 35 #3

Date 1991 Mar 15/16 Observers Mki/Pdr/[Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
✓ Cc01055.83	MD 197433			01 32 05	01 40 25	7 41 E			
✓ 1056	" "			01 40 40	01 49 00	7 33 E			
✓ 1057	" "			01 49 40	01 58 00	7 24 E			
✓ 1058	Comp							Fene	20 ^s
✓ 1059	Flats (2)			02 01		7 10 E	+75	Long Clear	15 ^s
✓ 1060									
✓ 1061	Bias (4)			02 02					
✓ 1062	Comp			02 08				Fene Clear	20 ^s
✓ 1063	HD 197433			02 10 05	02 18 25	7 03 E			
✓ 1064	" "			02 19 20	02 27 40	6 54 E			
✓ 1065	" "			02 28 30	02 36 50	6 45 E			
✓ 1066	Comp			02 38				Fene Clear	20 ^s
✓ 1067	HD 197433			02 41 50	02 50 10	6 32 E			
✓ 1068	" "			02 50 50	02 59 30	6 22			
✓ 1069	" "			03 01 20	03 09 40				
✓ 1070	Comp.							Fene Clear	20 ^s

Spectr. Temp.

Focus... 70

Spectr. Temp.

Exp. Mtr.

Se

7915

810

1890

Spectr. Temp. -0.2°C / ~~59%~~ Dome Temp./Hum. -0.2°C / 59% Transparency Conditions *Clear* 36

Focus 7.0

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1915	5.1" variable seeing				600/24.9	250 μ	3960A	26 ci	VW ceph		
1810								27 ci			
1890					SUM AVG ADU = 2010 @ λ_{central}			28 ci			
								29 ci			
								30 ci			
								31 ci			
								32 ci 1 ci			
								32 ci			
1626								32 ci			
2050	4"-7" variable				SUM AVG ADU = 2180 @ λ_{cent}			33 ci			
1875								34 ci			
								35 ci			
2220					SUM AVG ADU = 2270 @ λ_{cent}			35 ci			
2115								36 ci			
2180								37 ci			
								38 ci			

37 #4
 Date 1991 Mar 15/16 Observers Pdr/Mkr/[Hdy]...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
✓ CC01071, 8 ₃	HD197433				03 21 40				456
✓ 1072	"			03 23 40	03 32 00				
✓ 1073	"			03 32 30	03 40 40	5 41 E			490
✓ 1074	Comp							FeNe Clear	20 ^s
✓ 1075	HD197433			03 46 20	03 54 40	5 27 E			
✓ 1076	" "			03 55 20	04 03 40	5 18 E			
✓ 1077	" "			04 04 20	04 12 40	5 09 E			
✓ 1078	Comp			2					
1079	HD197433			04 22 40	04 31 00	4 51			
				04 31 30					
✓ 1079	Comp			04 38				FeNe Clear	20 ^s
✓ 1080	HD197433			04 39 40	04 48 00				
✓ 1081	" "			04 48 40	04 57 00	4 24 E			
✓ 1082	" "	36 negative		04 57 30	05 05 50	4 16 E			
✓ 1083	Comp								

Spectr. Tem.

Focus.....

Spectr. Tem.

Exp. Mtr.

2740.

2770

2713

2330

2600

2740

432

2100

2177

Spectr. Temp. Dome Temp./Hum. $-0.2^{\circ}\text{C}/56.8\%$ Transparency Conditions *Clear* 28

Focus *7.0*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD <i>cam</i>	600/24.9	250 μ	3960 Å	38ci	G=2550	'exp < 500 s.	
2740.								39ci	VW Ceph		
2770				SUM AVG ADU = 2400 @ λ_{cent}				40ci			
								41ci			
2713								42ci			
2330		4"-6"		SUM AVG ADU = 2331 @ λ_{cent}				42ci			
2600								43ci			
								44ci			
2560				SUM AVG ADU = 2435 @ λ_c				44ci		lost	
								44ci		"	
2632								44ci			
2700				SUM AVG ADU = 2471 @ λ_{cent}				45ci			
2677								46ci			
								47ci			

Spectr. Temp. Dome Temp./Hum.

[illegible]

41

#1

Date 1991 Mar 16/17 Observers Per / [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mr.
CC01092 ✓ fts	Comp			20 00				FeAr Clear	90°	
✓ 1093	HD 197433	20 38.6	+75 14	20 10 10	20 16 50				400°	640
✓ 1094	" "			20 17 50	20 24 30	11 06 W				880
✓ 1095	" "			20 25	20 31 40	11 14 W				1288
✓ 1096	Comp							FeAr Clear	90°	390
✓ 1097	HD 197433			20 39 10	20 45 50					390
✓ 1098	" "			20 47 00	20 53 40	11 35 W				844
✓ 1099	" "			20 54 00	21 00 40	11 42 W				1220
✓ 1100	Comp							FeAr Clear	90°	
✓ 1101	HD 197433			21 08 10	21 14 50	11 57 W				1790
✓ 1102	" "			21 16 00	21 22 40	12 04 W				1700
✓ 1103	Comp							FeAr Clear	90°	
✓ 1104	Bias (4)			21 28						
✓ 1105 ✓ 1106	Flats							Thung Clear	4s	

Spectr. Tem.

Focus....

Spectr. Tem.

Exp. Mr.

Spectr. Temp. $+5.2^{\circ}\text{C}$ Dome Temp./Hum. $+5.2^{\circ}\text{C}/41\%$ Transparency Conditions *Open Hazy* 42
 Focus 6.85 (stellar + Comp show no shift at this value)
 Spectr. Temp. Dome Temp./Hum. 505 0 24 1024 4 1 ccd fnt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit*	Emulsion	P.H.	Program	Remarks	Quality
	3".5			CCD Cass	1800/51.5	250 μ	5890A	1ci		G = 5505	
640				SUM AVG ADU = 2430				1ci	VW Ceph	Sodium lines setting	
880				② $\sim \lambda$ 5890 (10 columns)				2ci			
1288				SUM AVG ADU = 2780				3ci			
340				* longest slit available on decker					4ci		
390									5ci		
844									6ci		
1220									6ci 7ci		
									8ci		
1790								8ci			
1700								9ci			
								10ci			
								1ci			
								10ci		$\sim 14K$	

43

#2

Date 1991 Mar 16/17 Observers ... [Pdr/Mki/[Hdy]]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
✓ 1107 ✓ 1108	Flats (2)					11 32 E	+75 35	TUNG clear	45	
✓ 1109	Comp			21 50				FeAr clear	90°	
✓ 1110	HD 197433			21 57 20	22 04 00					
✓ 1111	"			22 06 00	22 ¹³ 12 40				430°	1570
✓ 1112	"			22 14 00	22 20 40					1500
✓ 1113	Comp							FeAr clear	90°	
✓ 1114	HD 197433			22 28 10	22 34 50					652
✓ 1115	" "			22 36 50	22 44 30	10 34 E			460°	1300
✓ 1116	" "			22 45 50	22 52 30	10 26 E				480
✓ 1117	Comp							FeAr clear	90°	
✓ 1118	HD 197433			23 00	23 06 40					1720
✓ 1119	"			23 07 50	23 14 30					1780
✓ 1120	"			23 16 30	23 16 ¹⁵ 40				465° 465°	1400
✓ 1121	Comp				24 15			FeAr clear	90°	
✓ 1122	HD 197433			23 31 40	23 38 20	9 40 E				1770

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CD Cass	1800/51.5	250 μ	5890A	10ci		14.5K ADU MAXIMUM	
								10ci			
	3"							10ci	VW Ceph		
1570								11ci			
1500								12ci			
								13ci			
652								13ci		Clouds?	
1300								14ci			
1480								15ci			
								16ci			
1720								16ci			
1780	4" variable							17ci			
1900								18ci			
								19ci			
1770								19ci			

45 #3

Date 1991 Mar 16/17 Observers Pdr / [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
✓ CCO 1123 ✓ 845	HD 197433	20 38.6	+75 14	23 39 40	23 46 20	9 32 E			
✓ 1124	"			23 47 20	23 53 55				395 ^s
✓ 1125	Comp								
✓ 1126 ✓ 1127	Flats (2)					9 15 E	+75 40	Tung Clear	4 ^s
1128	HD 197433								
✓ 1128 ✓ 1129	Flats (2)					9 00 E	+75 40	Tung Clear	4 ^s
✓ 1130	Comp							Fe Ar Clear	90 ^s
✓ 1131	HD 197433			00 23 20	00 30 00				
✓ 1132	"			00 30 20	00 37 00				
✓ 1133	"			00 39 40	00 46 20 46 00				
✓ 1134	Comp.							Fe-A.	90 ^s .
✓ 1135	HD 197433			00 53 40	01 00 40				420 ^s
✓ 1136	"			01 01 20	01 08 00				
✓ 1137	"			01 08 20	01 15 00				
✓ 1138	Comp								

Spectr. Ten

Focus...

Spectr. Ten

Exp. Mir.

1770

1750

166L

1670.

1870

1600.

Spectr. Temp. Dome Temp./Hum. $+3^{\circ}\text{C}/39.7\%$ Transparency Conditions 46

Focus 6.85

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1770	4"-7"	variable		CCD Cass	1800/51.5	250	5890A	20ci	VW Cephe		
1750								21ci		Check start time	
								22ci			
								22ci		$\sim 14000 \text{ ADU}$	MAX
								23ci		noticed decker shifted to next smaller slit	
								23ci		(using longest avail)	
								24ci			
1662								24ci			
1670.								25ci			
1870								25ci			
								26ci			
								26ci		Good count rate.	
1600.								27ci			
								27ci			
								28ci			

47 #4

Date 1991 Mar 16/17 Observers Pdr/Mki/[Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCD 1139 ✓ fts	HD 197433			01 24 30	01 33 30				540 ^s
✓ 1140	"			01 34 00	01 40 40	7 38 E			1500
✓ 1141	"			01 43 10	01 49 50	7 28 E			1815
✓ 1142	Comp							FeAr Clear	90 ^s
✓ 1143	HD 197433			01 56	02 02 50				410 ^s
✓ 1144	"			02 04 40	02 11 20	7 07 E			1750
✓ 1145	"			02 12 40	02 19 20	6 58 E			1950
✓ 1146	Comp								
✓ 1147	HD 197433			02 26 20	02 33 00	6 45 E			2050
✓ 1148	"			02 35 30	02 42 10	6 36 E			2110
✓ 1149	"			02 43 10	02 49 50	6 28 E			2260
✓ 1150	Comp								
✓ 1151	HD 197433			03 00	03 05 40				340 ^s
✓ 1152	"			03 08 30	03 15 10	6 03 E			2230
✓ 1153	"			03 16 40	03 23 20	5 54 E			2480

Spectr. Temp. Dome Temp./Hum. $+2.5^{\circ}\text{C} / 40.2\%$ Transparency Conditions *clear* 48
 Focus ... *6.85*
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	4.5"			CCD Cass	1800/51.5	250 μ	5890A	28 ci	VW Ceph		
1500								29 ci			
1815								30 ci			
								31 ci			
1640								31 ci			
1750				SUM AVG ADU = 3565 (@ 5890A (over 10 columns))				32 ci			
1950								33 ci			
								33 ci			
2050								34			
2110								35			
2060								36			
								37			
2100	3"							37			
2230								38			
2680								39			

49

#5

Date 1991 Mar 16/17

Observers

Pdr/ [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCO 1154 ✓ fts	Comp			03 25				to Ar clear	90s
✓ 1155	HD 197433			03 29	03 35 40				
✓ 1156	"			03 37 10	03 43 00				350s
✓ 1157	"			03 44 20	03 51 00				
✓ 1158	Comp							Fe Ar clear	90s
✓ 1159	HD 197433			03 59 50	04 06 30	5 11 E			
✓ 1160	"			04 08 20	04 15 00	5 03 E			
✓ 1161	"			04 16 10	04 22 50	4 55 E			
✓ 1162	Comp								
✓ 1163	HD 197433			04 31 30	04 38 10	4 40 E			
✓ 1164	"			04 40 30	04 47 10	4 31 E			
✓ 1165	"			04 48 10	04 54 50	4 23 E			
✓ 1166	Comp								
✓ 1167	HD 197433			05 01 00	05 07 40	4 10 E			
1168	"			05 08 50	05 15 30	4 02 E			

Spectr. Te

Focus...

Spectr. Te

Exp. Mtr.

2730

2450

2520

2740

2700

2790

2330

2200

2140

2280

2170

Spectr. Temp. Dome Temp./Hum. $+1.9^{\circ}\text{C}/41.9\%$ Transparency Conditions *Clear* 50

Focus ... *6.85*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/51.5	250 μ	5890A	40a	VW Ceph		
2730								40a			
2450	3 ^u							41a			
2520								42a			
								43a			
2740								43			
2700								44			
2790								45			
								46			
2330								46			
2200								47			
2140								48			
								49			
2280								49			
2170								50			

451.

6

Date 1991 Mar 16/17 Observers Pdr / [Hdy]

Emulsion Batches:

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[illegible]

53

#1

Date 1991 Mar 19/20 Observers Pdr / [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCO 1177 ✓ fts	Comp							FeA Clear	90°
✓ 1178	HD 197433	20 38.6	+75 14	23 57 30	00 05 00				450
✓ 1179	" "			00 07 29	00 14 30				421
✓ 1180	" "			00 16 50	00 23 30	8 43 E			400
✓ 1181	Comp			00 25 45				FeA Clear	90°
✓ 1182	HD 197433			00 31 10	00 37 50	8 29 E			
✓ 1183	"			00 38 40	00 45 26	8 21 E			406
✓ 1184	"			00 46 30	00 53 15	8 13 E			405
✓ 1185	Comp								
✓ 1186	HD 197433			01 10 00	01 16 40	7 49 E			
✓ 1187	"			01 18 00	01 24 40	7 41			
✓ 1188	"			01 25 10	01 31 50				
✓ 1189	Comp							FeA Clear	90°
✓ 1190	Bies (4)								
✓ 1191	Flats (2)					7 20 E	+75 37	Tung Clear	14°
✓ 1192									

Spectr. Tem

Focus....

Spectr. Tem

Exp. Mic.

1145

1045

1150

240

1280

1375

1250

1370

Spectr. Temp. Dome Temp./Hum. $+2.2/77.2$ Transparency Conditions *Clear* 54

Focus *6.85*

Spectr. Temp. Dome Temp./Hum.

505 0 24 1024 4 1 cal flat

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	5"			CCD Cass	1800/45.1		4860 Å	G = 4800		H _β setting	
1145								2ci		VW Ceph	
								3ci			
1045								4ci			
								5ci			
1150								5ci			
1240								6ci			
1280								7ci			
								8ci			
1375								8ci			
1250								9ci			
1370								10ci			
								11ci			
								1ci			
								12ci			
										13.6 K ADU MAX	

SUM AVG ADU = 2050
@ 4860 Å (10 columns)

SUM AVG ADU = 2110
@ 4860 Å (10 columns)

SUM AVG ADU = 2110
@ 4860 Å (10 columns)

SUM AVG ADU
BACKGROUND = 1770
(10 columns)

55

#2

Date 1991 Mar 19/20 Observers Bar/ [Hd] J

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter Exp.	
CC01193 ✓ fts	Comp							FeA Clear	90 ^s
✓ 1194	HD 197433			01 55 10	02 01 57	7 04 E			407 ^s
✓ 1195	"			02 02 50	02 09 30	6 57 E			
✓ 1196	"			02 13 10	02 19 40	6 46 E			390 ^s
✓ 1197	Comp							FeA Clear	90 ^s
✓ 1198	HD 197433			02 27 50	02 34 30				
✓ 1199	"			02 36 40	02 43 20				
✓ 1200	"			02 45 50	02 52 30	6 13 E			
✓ 1201	Comp			02 55				FeA Clear	90 ^s
✓ 1202	HD 197433			03 01 30	03 08 40				
✓ 1203	" "			03 13 00	03 19 40	5 46 E			
✓ 1204	" "			03 21 50	03 28 30	5 37 E			
✓ 1205	Comp								
✓ 1206	HD 197433			03 45 00	03 51 40				
✓ 1207	"			03 54 10	04 00 50				

Spectr. Ten

Focus...

Spectr. T.

Exp. Mir.

1340

1220

1210

1290

1250

1340

1750

1830

Spectr. Temp. Dome Temp./Hum. $+1.2/76.4$ Transparency Conditions *Clear* 56

Focus ... *Gr 85*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/45.1	250 μ	4860A	12a	VW Ceph		
1340	5"							12a			
1220								13a			
1210								14a			
								15a			
1290								15a			
1250								16a			
								17a			
								18a			
								18a			
1340								19			
								20			
								21			
1750	5"							21		<i>adjusted slit darker</i>	
1830								22			

57

#3

Date 1991 March 19/20 Observers Pdr / T HdyJ

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCO 1208 ✓ 1208	HD 197433			04 02 50	04 09 30			FeA Clear	90 ^s
✓ 1209	Comp							FeA Clear	90 ^s
✓ 1210 ✓ 1211	Flats (2)					4 53 E	+75 37	Tung Clear	14 ^s
✓ 1212	HD 197433			04 19 40	04 26 20	4 39 E			
✓ 1213	"			04 30 10	04 36 50	4 28 E			
✓ 1214	"			04 39 50	04 46 30	4 20 E			
✓ 1215	Comp			04 48				FeA Clear	90 ^s
✓ 1216	HD 197433			04 51 30	04 58 10	4 08 E			
✓ 1217	"			05 00 30	05 07 10	3 58 E			
✓ 1218	"			05 09 20	05 16 00	3 50 E			
✓ 1219	Comp			05 18				FeA Clear	90 ^s
✓ 1220	HD 197433			05 21 00	05 27 40	3 38 E			
✓ 1221	"			05 29 40	05 36 20	3 29 E			
✓ 1222	Comp			05 37 40				FeA Clear	90 ^s
✓ 1223 ✓ 1224	Flats (2)					3 26 E	+75 37	Tung Clear	14 ^s
✓ 1225 ✓ 1226	Dark - 10 min Bias (4)			05 43					

Spectr. Tem

Focus... 6.

Spectr. Tem

Exp. Mr.

1930

1800

1900

1860

1830

1820

Spectr. Temp. Dome Temp./Hum. +0.6/76.4 Transparency Conditions Clear 58
 Focus 6.85
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	5"			ccd Cass	1800/45.1	250 μ	4860Å	23 μ	VWceph		
								24 μ			
								24 μ		14.3 K ADU MAX	
								25 μ			
								26 μ			
1930								27 μ			
								28 μ			
2000								28 μ			
980								29			
1860								30			
								31			
830	6"							31			
820								32			
								33			
								33		13 K ADU MAX	
								34			

59 pg#1 Wed - Thurs

Date 1991 MAR 20/21 Observers ... Tn... Pdr... [Hdy]

Emulsion Batches:

505 0 24 1024 4 1 Ccb FmT

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01227 ✓ fts	Comp						Clear	FeAr	90s
✓ 1228	HD 67767	08 04 26	+25 49	19 27 40	19 39 40				
✓ 1229	Comp								
✓ 1230									4s
✓ 1231	Flat (2)								
✓ 1232	Flat (2)								3.5s
✓ 1233									
✓ 1234	Comp								
✓ 1235	HD 67767			19 55 00	20 09 55				
✓ 1236	Comp								
✓ 1237	Comp							FeAr Clear	120s
✓ 1238	HD 75732	08 46 39	+28 43	20 25 30	20 30 30				
✓ 1239	Comp							FeAr Clear	120s
✓ 1240									3.5s
✓ 1241	Flat (2)								
✓ 1242	Flat								4s
✓ 1243	Comp			20 41				FeAr Clear	90s
✓ 1244	HD 75732			20 44 50	20 50 00				

Transparency Conditions *cloud coming in.....* 60

Dome Temp./Hum.

Then clearing
Topup @ 19 hrs. $T = -129^{\circ}\text{C}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	1800/	250	G=5505 5890A	1ci		Slit full Length (longest step)	
6320	2"	5.73	✓ JG7	CCDCASS Blue Coll				2ci	Sp Phot Std	reset "time" during exp	
										14.5 K ADU MAX	
										14.7 K " "	
					1800/56.2		G6020 6560A		Sp phot std	1st puri exp thru thick cloud	
6000											
6000 EXACTLY	2"	5.95	✓ G8V		1800/		6560A	6ci	Sp phot Std		
										15.3 / 13.5 K ADU MAX	
3.2							5890A			14.5 K ADU MAX	
6300										Note CCD Temp not turned to the -100°C used / see frame	

61 #2 Wed-Thurs
 Date 1991 MAR 20/21... Observers Hdy./Tn./Pdr.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
✓1245	Comp							FeA Clear	90 ^s
✓1246	BIAS (A)								
✓1247	BIAS (A)	after setting CCD Temp to -100 region							
✓1248	Comp						Clear	FeA	90s
- 1249	HD 75732	08 46 39	+28 43	21 15 50	21 22 25				
- 1250	Comp						clear	FeA	90s
✓1251	Flat - 5890Å						clear	TUNG	4s
✓1252	Flat - 6560Å						"	"	3.2
✓1253	Comp						"	FeA	120.
✓1254	HD 75732	08 46 39	+28 43	21 42 40	21 46 30	00 31 W			
✓1255	Comp						Clear	FeA	120
✓1256	Comp.								120s
✓1257	HD 87901	10 03 03	+12 27	21 58 40	21 58 50	E			
✓1258	"	"	"	22 00 50	22 01 02	8 35 E			
✓1259	Comp						clear	FeA	120
✓1260	FeA T						clear	TUNG	90s

Spectr. Ten
 Focus
 Spectr. Ten

Exp. Mtr.

6318

12740

11400

3.2 sec

Spectr. Temp. Dome Temp./Hum. $+2.5^{\circ}\text{C}$ 40% Transparency Conditions ... PART cloudy 62
 Focus 6.85 pg 42
 Spectr. Temp. Dome Temp./Hum. Note CCD Temp not changed to the -100°C
 Range Region 1811 21 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	1800/51.5	250 μ	G=5505 5890A			* CCD T ≈ -129 * CCD T ≈ -129 still CCD T set, $= -101.8^{\circ}\text{C}$	
6318	<2" 5.94 ^V			dk000 G8V					7ci Sp phot std		
							G=6020 6560A ⁰			14.5 K ADU MAX	
				note 1st attempt didn't write "0" bytes			6560A ⁰		[Had to Reset Mericon]	14.2 K ADU MAX	
							6560A				
	<2" 5.94 ^V			G8V					sp phot std		
12740		B 1.47		B7V			6560A ⁰		Sp phot std		
11400											
3.2 sec							6560A ⁰			13.9 K ADU MAX	

63

#3

Emulsion Batches:

Date ... 1991... MAR 20/21 Observers ... Hdy. / J. P.d.f. / J.n...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01261-45	Flat						Clear	TUNG	40s
1262	Comp						clear	FeA	90s
1263	HD 87901	10 03 03	+12 27	22 15 20	22 15 35				
1264	"	"	"	22 16 20	22 16 37				
1265	Comp						clear	FeA	90s
1266	Comp						clear	FeA	90s
1267	HD 75528	08 51 01.4	+15 21 02	22 26 40	22 40 30	01 25 W			
1268	Comp						clear	FeA	90s
1269	Flat						clear	TUNG	4s
1270	FLAT						clear	TUNG	3.2s
✓ 1271	Comp						clear	FeA	120s
1272	HD 75528	08 51 01.4	+15 21 02	22 56 30	23 35 21	02 20 W			
1273	Comp						clear	FeA	120s
✓ 1274	Bias (4)								
1275	Dark - 15m			23 48 30					

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mtr.

1200

13x

13x

6300

2450

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions .. *PART. clearly* 64

[illegible]

65

Sun mon

Emulsion Batches:

Date 1991.MAR 24/25 Observers Hdy..I.Tn.....

At meridian.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCT0001.8ts	BIAS (1)	Note, CCD window dial before flats (much water on window)							
CCT0002	FLAT 302sec					TUNG	No ND	clear No Ap	3:2
3	FLAT 60sec					"	ND 1.2	"	60sec
4	FLAT 60secs		+17 30	22 44		"	ND 1.2	"	60secs
5	✓ 10 FLATS. BAT	10 FLATS (sum of)		each 20 msec			No filter	No Ap	
6	✓ FLAT		+14 30	22 54			ND 1.2	"	60sec
407 7	✓ FLAT repeat of previous		+14 30	23 05			ND 1.2		60sec
8	FLAT at higher Dec	1					"	"	60sec
9	✓ 10 FLATS. BAT	2 Tscale		(Sum of 10 40 msec exps)			no filter	"	
10	" " 6	4 Tscale		Sum of 10 80 msec exps			no filter	"	
11	" " 4	8 Tscale		23 56			(Sum of 10 160 msec exps)	"	
CC01276.8ts	DATA for previous - night			01 00					1200
	(for Low temp CCD OBS)			1					

Spectr. Temp. Dome Temp./Hum. $+42...78.5$ Transparency Conditions ... *Cloudy* 66Focus 6.85 AstroClock is $15.7s$ fast.Spectr. Temp. Dome Temp./Hum. $AT 9:02 PM EST MAR 24$ CCD T = $-100.2^{\circ}C$

505 0 24 1024 4 1 CCD FMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Coll	1800/562	250c modulation	6560A	1ci		Full Length Slit	
Tel Dec α	30°							2ci			
	"							3ci			
Dec Tel = $14^{\circ}30'$				[note f18 Ap stop always in place]				4ci		$\approx 15^{\circ}$ south of others Tel at lower Dec than previous	
Tel Dec $\approx 30^{\circ}$								8ci	Det	Done before previous Fast (17.6% amp diff)	
Tel Dec $+14^{\circ}30'$								5ci			
	n 4							6ci			
Tel Dec $+30^{\circ}$								7ci			
	$+30^{\circ}$							9ci		Amplitude Diff 12.5%	
	$+30^{\circ}$							24ci		Amplitude Diff 8.4%	
	$+30^{\circ}$							10ci		Amplitude Diff 5.5%	
										CCD T = $-128.4^{\circ}C$	

67

Thurs Fri pg#1

Date 1991 MAR 28/29 Observers [Hdy.] Jn./Pdr.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CC012775 [✓]	Comp			19 44			Clear	FeAr	90s
12788 [✓]	HD 197433	20 38.6	+75 14	19 50 00	19 56 40	W			
1279 [✓]			"	19 57 40	20 04 20	11 33W			
1280 [✓]		✓	✓	20 05 37	20 11 57				
1281 [✓]				20 12 55	20 19 15				
1282 [✓]	Comp						Clear	FeAr	90s
1283 [✓]	Flat								
1284 [✓]	HD 197433			20 25 42	20 32 22	12 00W			
1285 [✓]	HD 197433			20 32 30	20 39 10	11 52E			
1286 [✓]	Flat								4s
1287 [✓]	Comp								
1288 [✓]	BIAS								
1289 [✓]	Comp						Clear	FeA	90s
1290 [✓]	MOON NOT TRAILED			21 14 30 21 13	21 14 50				20sec
1291 [✓]	Comp						Clear	FeA	90s
1292 [✓]	Flat								4s

Spectr. Temp.

Focus....6"

Spectr. Temp.

Exp. Mtr.

S

1570

1530

1360

1310

13 2

12 20

Transparency Conditions *Fine* 68

pg 1

Dome Temp./Hum.

482 0 38 1024 4 1 ccdfmt

[illegible]

69 pg #2

Date 1991 MAR 28/29 Observers Pdr In [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
001293✓	FLAT								
1294✓	Comp							FEA Clear	120s
001295✓	MOON NOT TRAILED			21 2940					20s
1296✓	Comp							FEA Clear	120
1297✓	Flat						Clear	TUNG	32s
1298✓	FLAT						Clear	TUNG	13s
1299✓	Comp						clear	FeA	90s
1300✓	MOON NOT TRAILED			21 51 4840				40s	30s
1301✓	Comp						clear	FeA	90s
1302✓	Comp						clear	FeA	90s
1303✓	HD 197433			22 31 30	22 38 10				
1304✓	"			22 42 00	22 48 40				
1305✓	"			22 49 50	22 56 30	9 34 E			
1306✓	Comp						Clear	FeA	90s
1307✓	Flat						Clear	Tung	4s
1308✓	Dark - 10 min			23 23 30					

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

789

420

164

Spectr. Temp. Dome Temp./Hum. ... $+4^{\circ}\text{C}$... 49% Transparency Conditions ... PART ... Cloudy ... 70
 Focus ... 6.85 ... py#2
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS BlueCell	66020 1800	25 μ no data	6560A			14.2 K ADU/pixel MAX	
							11				
							1				
							1				
							n			14 K ADU/pixel MAX	
					G=4800 1800		4860A			8-14 ADU/pixel MAX	
							n				
							n	9ci		11 K ADU/pixel MAX	
							n				
					G5505 1800/51.7		5890A	12ci			
789		V= 7.3-7.7						13ci		mean Cont = 1400 ADU sum of 4 cols	
420								14ci		part cloudy	
464								15ci		clouds	
								18ci			

71 #3

Date 1991 MAR 28/29 Observers TJ

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum. 75.0 C 50

Transparency Conditions.....

Focus

Spectr. Temp.

Dome Temp./Hum.

[illegible]

73

pg#1

Fri Sat

Emulsion Batches:

Date 1991 MAR 29/30 Observers ... Hdg ... Pdr ... Tn ...

(Times From ASTO Clock) Astro clock .. 2.3 secs. ahead of WWV

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCO	1310, fts Comp		# 1311	(Flat 4secs)	at HD 71148 posn		FeAr	Clear	90s
1312	HD 71148	08 20 38	+45 59	20 17 30	20 33 18	00 16 W			
1313	Comp						FeA	Clear	90s
1314	Comp						"	Clear	120s
1315	HD 71148	08 20 38	+45 59	20 41 05	20 54 44	00 38 W			
1316	FLAT Comp						FeA	Clear	3.2s
1317	FLAT Comp						FeA	Clear	120s
1318	Comp						FeA	Clear	120s
1319	HD 87901	10 03 03	+12 27	21 10 13	21 19 30	00 46 E			
1320	BIAS(4)			21	21 11 30				
1321	Comp						FeA	Clear	120s
1322	FLAT (AT HD 87901 posn)						TUNG	Clear	3.2s
1323	FLAT		"				TUNG	Clear	4s
1324	Comp						FeA	Clear	90s
1325	HD 87901	10 03 03	+12 27	21 29 49	21 30 30	00 27 E			
1326	Comp						FeA	Clear	90s

Spectr. Temp.

Focus ...

Spectr. Temp.

Exp. Mir.

7500

7500

7500

7500

7500

3500

Spectr. Temp. Dome Temp./Hum. 0°C 55% Transparency Conditions ... *Clearing, partially* 74
 Focus 6.85 pg #1 482 0 38 1024 4 1 CCD FWT
 Spectr. Temp. Dome Temp./Hum. Note set time set to WWV time from DDO 74

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	G 5505 1800/51.7	25 μ no detector	5890A				
7500	3"	✓ 6.27	dGA						Hdy-std	CCDT = -100.3°C	
7500					G 6020 1800		6560A				
7500		✓ 6.27	dGA						Hdy-std		
										14.4 max ADU/pixel	
										CCDT = -101.8°C	
19,300 29,300		✓ 1.4	B7V						Regulus Std.	.	
					G 5505 1800/51.7		5890A				
35000		✓ 1.4	B7V								

75

Pg #2

Date 1991 MAR 29/30 Observers Hdg... Pdr... Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Nr.
CC01327.fts	Comp						clear	FeA	90s	
1328	HD 55575	07 08 25	+47 25	21 44 32	21 52 30	02 47 W				7,100
1329	Comp						clear	FeA	90s	
1330	Flat						clear	TUNG	4s	
1331	FLAT						clear	TUNG	3.2	
1332	Comp						clear	FeA	120s	
1333	HD 55575	07 08 25	+47 25	22 06 35	22 13 13	03 08 W				7500
1334	"	"	"	22 15 20	22 25 20	03 20 W				13400
1335	Comp						clear	FeA	120s	
1336	Comp						"	"	120s	
1337	HD 84737	09 42 08	+46 29 20	22 37 30	22 41 16	01 03 W				7800
1338	Comp						clear	FeA	120s	
1339	Flat						clear	TUNG	3.2s	
1340	FLAT						clear	TUNG	4s	
1341	Comp						clear	FeA	90s	

Spectr. Temp. Dome Temp./Hum. $-2.8^{\circ}\text{C} \dots 61\%$ Transparency Conditions ... *P.H.T. Cloudy* *76*
 Focus *pg #2*
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		$\checkmark$ 5.58	GO	CCDCAS Blue CdI	G 5505 1800/	250 μ	5890A				
7,100	3"	5.58	GO						Sp Std	cloud again CCDT = -101.8°C 14.0 MAX ADU / pixel	
					G=6020 1800/		6560A				
7500	2.5"	5.58	GO						Sp Std	MAX ADU / pixel ≈ 3000	
13400	"							17ci		E " " 4800	
$\approx$ 7800	3"	$\checkmark$ 5.11	G1V		G 6020 1800/		6560A		Sp Std		
					G 5505 1800/51.7		5890A			14.7 ADU max / pixel	
					"		"				

77 pg #3

Date 1991 MAR 29/30... Observers Hdg. Pdr. Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
001342	HD 84737	09 42 08	+46 29 20	22 55 40	22 59 27	01 21 W			
1343 ✓	Comp						clear	FeA	90s
1344 ✓	Comp						clear	FeA	90s
1345 ✓	HD 101501	11 35 47	+34 46	23 14 20	23 19 26	00 10 E			
1346 ✓	Comp							FeA	90s
1347 ✓	Flat						Clear	Tung	4s
1348 ✓	Flat						"	"	3.2
1349 ✓	Comp			23 26 40			"	FeA	120s
1350 ✓	HD 101501			23 34 00	23 38 40				
1351	Comp					0			
Fm 00309 Tn	HD 101501	11 35 47	+34 46	23 45		00 16 W	+34 15	4 frames	
1352	Comp						clear	FeA	120s
1353	HD 98230	11 12 51	+32 06	23 54 55	23 55 57				
1354	Comp						clear	FeA	120s
1355	FLAT						"	TUNG	3.2s

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

7500

850

7570

"N" m

7400

Spectr. Temp. Dome Temp./Hum.

[illegible]

79

pg #4

Emulsion Batches:

Date .1991 MAR 29/30. Observers Hdg... Tr... Pdr.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc0 1356	FLAT						clear	Tung	4s
1357	Comp						n	FeA	90s
1358	HD 98230	H 1251	+32 06	00 06 48	00 07 43	01 00 W			
1359	comp for HD 90125 (no comp after HD 98230)						clear	FeA	90s
1360	HD 90125	11 19 03	+02 52	00 18 33	00 36 00	02 23 W	n	n	90s
1361	Comp						clear	FeA	90s
1362	Flat						clear	TUNG	4s
1363	FLAT	[1364 is Comp Before #cc01365 exp]					n	n	3.2s
1365	HD 90125	11 19 03	+02 52	00 48 25	01 04 11	2 52 W			
1366	Comp						clear	FeA	120s
1367	BIAS (4)								
1368	Comp						clear	FeA	90s
1369	HD 197 433	20 38.6	+75 14	01 20 10	01 26 50				400s
1370	n	n	n	01 28 10	01 34 50				400s
1371	n	n	n	01 36 30	01 43 10				400s

Spectr. Temp. Dome Temp./Hum. -4°C 64% Transparency Conditions ... Clear 80

Focus

Spectr. Temp. Dome Temp./Hum.

(EST)
Astro clock 23 secs ahead of WWV

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS Blue Coll	G 5505 1800/	250 μ	5890A				
7500	3-4"	V 4.87	GOV						sp Std		
7500	3-5"	V 6.27	G9					26ci	sp Std	(10K AD4 sym cont of 6cols)	
								27ci	sp Std		
								27		14.6 max AD4/pixel	
					G 6020 1800/		6580A	27		14.6 MAX AD4/pixel	
6000	4"	V 6.27	G9					27ci			
								27ci			
					G 5505 1800/5.7		5890A			CCDT = -101.9°C	
1460	4"	V 7.3-7.7	G3 +K7						Hdg pgm sp Std		
1400											
1310								28ci			

81 Pg #5

Date 1991 MAR 29/30 Observers [Hdy] Tm Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mr.
1372✓	HD 197433			01 44 00	01 50 40	6 36E		FeA		1260
1373✓	Comp							Clear	90s	
1374✓	Flat							Tung Clear	4s	
1375✓	HD 197433			02 01 00	02 07 40					1500?
1376✓	"			02 09 16	02 15 56					1000
1377✓	"			02 17 27	02 24 07	6 03 E				536
1378✓	Comp							FeA	90s	
1379✓	FLAT							TUNG	4sec	
1380✓	HD 197433			02 54 55	03 01 35	5 24 E				920
1381✓	"			02 02 30	03 09 10	5 18 E				820
1382✓	"			03 10 12	03 16 52					80
1383✓	"			03 17 49	03 24 29	5 02 E				80
1384✓	Comp							FeA	90s	
1385✓	Flat					4 57 E	+75 34	Clear		
1386✓	HD 197433			03 32 40	03 39 20	4 47 E				990

Spectr. Temp.

Transparency Conditions Clear 82

Focus ... 6:85

Dome Temp./Hum.

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1260		7.3 7.7	B3 +K7	CCDCHES BlueColl	65505 1800/51.7	252u	5890A	29a			
1500?								30a			
1000								31a		Cloud	
536								32a		Cloudy	
										14K ADU/pixel max	
920								34a			
820								35a			
780								36a			
980								37a			
										13.8K ADU/pixel max	
990								38a			

83

Pg #6

Date 1991 Mar 29/30 Observers Tn Pdr [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1387	✓ HD 197433			03 41 55	03 48 35	-4 30 E			
1388	✓ Comp							FeA Clear	90s
1389	✓ Flat					-4 34 E	+75 34	Tung Clear	4s
1390	Flat								
1391	Comp							FeA	90s
1392	Nova Her 1991			04 06 56	04 19 00	2 15 E			
1393	Comp at 6620A								120s
1394	Nova Her 1991	(Lost, not written)		04 26 13	04 30 30				
1395	Comp	Delete						FeA Clear	120s
1396	Flat	Delete						Tung Clear	3.2s
1397	Flat	94						Tung	3.2s
1398	Comp	95						FeA Clear	120s
1399	Nova Her 1991	96		04 43	04 57 30				
1397	Comp	97						FeA Clear	90s

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.

1140

1000

435

300

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Partly Cloudy* 84

[illegible]

[illegible]

87

pg #1

SAT SUN

Emulsion Batches:

Date 1991 MAR 30/31

Observers [Hdy] Pdr Tn

CCO "set time" set to WWV Time at START of Night

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Fm000310.Tn	HD 65583	07 54 21	+29 31	2 19 55		00 11W	^{1/5 sec Int} Int x 4	"N" mdp.	
CCO 1405.FTS	Bias (H)			20 24					
1406	Comp for HD 87901							FeA clear	90s
1407	HD 87901	10 03 03	+12 27	20 35 00	20 35 42	01 18 E			
1408	HD 87901	"	"	20 37 10	20 37 48	01 16 E			
1409	Comp							FeA clear	90s
1410	FLAT						clear	TUNG	4sec
1411	FLAT for VW Cep						"	"	4sec
1412	Comp						clear	FeA	90s
1413	HD 197433 ^{VW Cep}	20 38 6	+75 14	20 54 10	21 00 50	11 23 E			
1414	"			21 03 00	21 09 40				400s
1415	"			21 11 00	21 17 40				400s
1416	"			21 18 20	21 25 00	10 50 E			400s
1417	Comp						clear	FeA	
1418	FLAT						clear	TUNG	4s

Spectr. Temp.

Dome Temp./Hum.

Note CCD had warmed to Ambient Temperature DAY
482 0 38 1024 4 1 (CCDFmt)

Dome opened by 18:45 Fans only on by 19:50 EST

[illegible]

89

Pg #2

Emulsion Batches:

Date 1991 MAR 30/31 Observers Hdy... Pdr... Jn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1419	✓ HD 197433	20 38.6	+75 14	21 34 50	21 41 30				
1420	✓ "			21 43 40	21 50 20				
1421	"			21 51 30	21 58 16				
1422	"			21 58 30	22 05 20				
1423	Comp								
1424	FLAT								
1425	HD 197433			22 12 00	22 18 40				
1426	"			22 20 00	22 26 40				
1427	"			22 27 40	22 34 20	9 49 E			
1428	"			22 35 00	22 41 40	9 42			
1429	Comp								
1430	FLAT								
1431	HD 197433			22 47 20	22 54 00				
1432	"			22 54 35	23 01 15				
1433	"			23 01 30	23 08 10				

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mir.

1560

1540

155

425

815

770

700

795

720

685

666

Dome Temp./Hum.

[illegible]

91

Pg #3

Date 1991 Mar 30/31 Observers [Hay] Pdr Tm

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1434	HD 1974 33			23 08 25	23 15 10				
1435	FLHT								
1436	Comp								
1437	HD 1974 33	20 38 6	+75 14	23 20 40	23 27 20				400
1438	"			23 27 46	23 34 26				400
1439	"			23 35 20	23 42 00				400s
1440	"			23 42 30	23 49 10				400
1441	Comp						Clear	FeA	90s
1442	Flat								
1443	HD 1974 33			23 54 15	24 00 55				
1444	"			00 02 00	00 08 40	8 14 E			
1445	"			00 09 40	00 16 20				
1446	"			00 17 30	00 24 10				
1447	Comp							FeA clear	90s
1448	Flat							Tung clear	4s

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mr.

600

1715

1600

1630

1760

1830

1860

1880

Spectr. Temp.

Transparency Conditions Clear 92

Spectr. Temp.

Dome Temp./Hum.

[illegible]

93

Pg #4

Date 1991 Mar 30/31

Observers

Tr Per [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1449	✓ HD 197433			00 32 20	00 39 00				
1450	✓ "			00 40 20	00 47 00				
1451	✓ "			00 48 00	00 54 40				
1452	✓ "			00 55 00	01 01 40	07 20E			
1453	✓ FLAT							TUNG	4s
1454	✓ Comp							FeA	90s
1455	✓ HD 197433	20 38.6	+75 14	01 07 00	01 13 40				400
1456	✓ "			01 14 00	01 20 40				
1457	✓ "			01 21 00	01 27 40				
1458	✓ "			01 28 00	01 34 40				
1459	✓ Comp								
1460	✓ FLAT						Clear	FeA	90s
1461	✓ HD 197433			01 40 40	01 47 20	06 36E	n	TUNG	4s
1462	✓ "			01 47 40	01 54 20				
1463	✓ "			01 54 40	02 01 20				
1464	✓ "			02 01 30	02 08 10				

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

2260

22400

2400

2450

2460

2480

2480

2500

2500

2300

2430

2350

2460

94

Dome Temp./Hum.

2460

95

pg #5

Emulsion Batches:

Date ... 1991 MAR 30/31 .. Observers [Hdg] ... Tr ... Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1465	Bias (4)								
1466	Comp			02 10				Felt clear	90 ^s
1467	Flat					6 10 E	75 24		
1468	HD 197433			02 14 50	02 21 30				
1469	"			02 22 20	02 29 00				
1470	"			02 29 50	02 36 30				
1471	"			02 38 00	02 44 40				
1472	FLAT					5 35 E	75 34		
1473	Comp							Felt clear	90s
1474	HD 197433			02 53 00	02 59 40				
1475	"			03 00 40	03 07 20				
1476	"			03 08 10	03 14 50				
1477	"			03 15 27	03 22 07				
1478	Comp								
1479	FLAT					4 57 E	75 34		

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 96.

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										173 ADU	
										13.7 K	
2240								41			
2100								42			
2050								43			
2050								44a			
								45a			
								45			
								45			
1995								46			
2020								47			
2060								48a			
								49			
								50		13.3 K ADU max	

97

Pg # 6

Date 1991. Mar. 30/31. Observers Jim Par [Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
1480 ✓	HD 197433			03 29 20	03 36 00					2300
1481 ✓	"			03 36 10	03 42 50					2300
1482 ✓	"			03 43 20	03 50 00					2300
1483 ✓	"			03 50 10	03 56 50					2190
1484 ✓	Flat							Tung Clear	4 ^s	
1485 ✓	Comp							FeA Clear	90 ^s	
1486 ✓	HD 197433			04 03 10	04 09 50					2450
1487 ✓	"			04 10 00	04 16 40					2560
1488 ✓	"			04 17 00	04 23 40					2580
1489	"			04 24 25	04 31 05					2560
1490	Comp							FeA Clear	90 ^s	
1491	FLAT									
1492	HD 197433			04 37 35	04 44 15					2670
1493	"			04 45 10	04 51 50					2750
1494	"			04 53 10	04 59 50					2580
1495	"			05 00 40	05 07 20					2650

Spectr. Temp. Dome Temp./Hum. -4.7 / 60.1 Transparency Conditions Clear 98

Focus

482 0 38 1024 4 1 CCD FMT St. 11

Spectr. Temp.

Dome Temp./Hum.

Hot spots Regular of Col 11 Rows 144 (tr) & 145

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2300		7.3 -7.7						50c		CCDT = -101.7°C	
2360								49 50c			
2300	25"							50c			
2190								51c			
										13.3K ADU max	
2450								52			
2560								53			
2520								54			
2560								55			
2670								56c			
2750								57			
2580								58			
2650								59			

pg # 7

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 100

pg 7

Dome Temp./Hum. -5°C 62%

[illegible]

1991 Sun-mon

Observers Hdy Tn

Emulsion Batches:

note Set-time still = WWV time in "DDO 74" ± 1 sec

[illegible]

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass Blue Cell	1800/55.7	250 μ	5890 Å	1ci	G = 5505	(Slit with node for)	
20010	<2"	V 1.4	B7V _n					2ci	Regulus Sp Std	REGULUS Telluric Trailing slightly on purpose	
							5890 Å		G = 5505	14.6	
					1800/56.2	250 μ	6560 Å	2ci	G = 6020	14.1 K	
3300								3ci ✓			
	3"	V 1.4	B7V _n					4ci		very cloudy now	
								5ci		WEAK, (source cutout)	
									All Backed up to Perseus. To here.	Tn	

103

pg 41

Emulsion Batches:

Date 1991 APR 2/3... Observers Tn SPD = Steve Doinidis

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01512.FTs	Comp						Clear	FeA	40s
1513.FTs	HD 65583	07 54 21	+29 31	19 51 50	20 01 54	00 28W			
1514.FTs	Comp						clear	FeA	40s
1515.FTs	BIAS (4)								
FM 1513 1513.FTs	HD 65583 Scary Test.	07 54 21	+29 31		20 11 00	36W	"N" mode	4x Int	
1516.v	Comp						clear	FeA	40s
1517.v	BS15621-068			20 24 32	20 54 32				
1518	BS15621-068	1950 10 21 253	+23 05 13	20 54 14	21 20 16	00 36E			
1519	Comp						clear	FeA	40s
1520	Comp						n	FeA	40s
1521	BS15621-017	1950		21 40 50	22 11 10	E			
1522.v	"	10 22 100	+27 55 06	22 11 47	22 46 00	00 48W			
1523.v	Comp							FeA	40s
1524.v	BIAS (4)								
1525.v	FLAT						clear	TUNG	12sec

Spectr. Ten

Focus. 6:

Spectr. Ten

Exp. Mtr.

Rowing

363

334

430

430

Transparency Conditions... *Fine - s/hazy* 104

Spectr. Temp. Dome
Focus . 6.85. (but looks in focus)
Spectr. Temp. Dome (with fast focus test)

$$C\text{GAIN} = 30$$

Dome opened @ 19 EST Fans on @ 19:50

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCASS Blue Coll	600/95°	200μ	4100A			G=2580	
2780	2"	700	dG7						Stlue1	2.2K ADU sum of 6 cols	
											Mean 179.10 ±13.7
Nowind	2"	700	dG7	4 frames		200μ	Note CCD Format 5400 30 1024 41 colFmt (was from mark)		seely test	Done SSU	
363		10.71						3ci		2.12K ADU sum of 6 cols	
334								4ci			
230	2"	B 11.18						5ci			
230								5ci		104329 max count 1075 ADU sum of 5 cols	
											177.31 ±13.70
										2.12K ADU/pix/mag	

105. pg #2

Emulsion Batches:

Date 1991 APR 21/3..... Observers Steve (SPB) / Tg

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1526	BIAS(4)	90 c gain							
1527	FLAT						clear.	TUNG	892
1528	Comp							FeA	40s
1529	BS 15621-07	1950 10 22 10	+27 55 06	23 07 00	23 28 40	01 30 W			
1530	Comp						clear	FeA	40s
1531	Comp						clear	FeA	40
1532	BS 15625-032	1950 11 59 37.3	+27 47 03	23 54 45	00 25 00	00 51 W			
1533	"			00 26 53	01 05 20	01 30 W			
1534	Comp						clear	FeA	40s
1535	BIAS(4)	90 c gain	(shows gradation)						
1536	BIAS(4)	30 c gain	(ok)						
1537	Comp						clear	FeA	40s
1538	BS 16027-035	1950 13 06 21	+33 08 08	01 23 30	01 56 30	W			
1539	"	"	"	01 56 50	02 27 20	01 45 W			
1540	Comp						clear	FeA	40s
1541	Flat						clear	TUNG	12s

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

185

110

150

172

200

Spectr. Temp. Dome Temp./Hum. -1°C 47% Transparency Conditions 106

Focus

Past FULL moon up by 23°

Spectr. Temp. Dome Temp./Hum.

Changed to 90 Cg gain here

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CH5 Blue Coll	600	200u	4100A				Mean = 138.19 $\sigma = 17.20$
										MAX 11 K ADU / pixel	
185	3"	B = 11.18						6ci		CCOT = -100.4°C	
								7ci		of Row 239 1035 ADU sum of 5 cols 800 ADU sum of 6 cols	
110	2"	B = 12.71								Another faint star 2.5' south of this one, none visible in center	
150	2"	"						8ci		≈ 15 ADU above DARK for 5 cols	
								9ci		(Sum of 2 in 8ci now)	
											137.71 $\sigma = 17.9$ 177.49 $\sigma = 13.2$
192	0"	B = 11.68								(NW of 3 stars within 10' field)	
200										5 cols (bias subtracted) then (185 ADU sum Avg) continuum	
								11ci			
								12ci			
								13ci		3.5 - 11 K ADU / pixel	

107 pg 13

Tues-Wed

Date 1991 APR 2/3..... Observers SPD - Ty.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01542.FTS	Comp.								
1543	BS16027-087			02 42 40	03 04 45				
1544	"			03 05 10	03 26 44	2 48W			
1545	Comp (written over comp after BS16027-087)						Clear	FeA	40s
1546	HD 144579	16 01.5	+39 24	03 36 57	03 45 00				
1547	Comp								
Fm 314TH	BHD 144579	seeing test		~3 50			4x Int	'N' male	
1548	BIAS (4)								
1549	Comp						Clear	FeA	40s
1550	Nova Her 91			04 06 45	04 18 20				
1551	"			04 19	04 47				
1552	"			04 47 13	05 09 20				
1553	Comp						Clear	FeA	40s
1554	Nova Her 91			05 12 28	05 19 20				
1555	Comp						Clear	FeA	40s
1556	BIAS (4)								

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mtr.

670

720

4200

4

260

540

491

400

Spectr. Temp. Dome Temp./Hum. ... -2.0° 55% Transparency Conditions ... 51 hazy ... (25)
 Focus $19\#3$
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					600/25	209 μ	4100 $\text{\AA}$	14ci		CCD T = -101.8°	
670								15ci		Fld drawn etc	
720	2.3"							16ci			
		6.66	G8					17ci	Comp + HD144579		
4200								18ci			
4								19ci		(MAY Be suspicious. G & mag have jiggled)	
		6.66	G8						Light N W wind		
										mean = 178.22 $\sigma = 13.83$	
260		$\checkmark$ 10.5 (corrected by To IAU BULL)						20ci			
540								21ci		52015 $\approx$ ADU SUM near H $\gamma = 1200$	
491								22ci			
400								23ci			
										175.29 $\sigma = 14.00$	

24

Emulsion Batches:

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[illegible]

[illegible]

111

pg #1

Wed - Thurs.

Emulsion Batches:

Date 1991 APR. 3/4 Observers S.P.D./T.N.

ASTRO clock Ahead of set-time 42 sec. note Astr Clock used in Logbook. ^{Times} ~~Astr Clock~~ ahead of

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCF00094	Comp posn	Focus Test					clear	FeNe	30s
CCF00095	Stellar posn	" "	" "				clear	"	30s
CC01559.fts	Comp	Intended (A) Identified as HD65138							
1560.fts	HD 65583	07 58.2	+29 29	195638	201530	00 46 W			
1561.fts	Comp								
1562.fts	BIAS (4)								
1563.fts	FLAT	QK after All				01 34 E	+2605 clear	TUNG	850s
FM00035.Tn	HD 65583	(done Right after 1560.fts exp)			20 16	00 47 W	Int (4)	"N" made	4 from
1564.fts	Comp	(CC01564.fts) after all					clear	FEA	40s
CC1565.fts	BS 15621-002	WRONG STAR 1950 intended			20 45	21 17 15	00 41 W		
1566	"	10 26 24	+26 14 18	21 19 00	21 50 30	00 08 E			
1567	Comp						clear	FEA	40s
1568	BIAS (4)								
1569	FLAT	(At BS 15621 posn)					TUNG		850s
1570	Comp						clear	FEA	40s

Spectr. Temp. Dome Temp./Hum. $+4^{\circ}\text{C}$ 52% Transparency Conditions . S/H. Hazy, thin cloud 112
 Focus 6.85 still pg#2 CCD Format 540 0 48 1024 41 Fans on : Dome open by 19.75
 Spectr. Temp. Dome Temp./Hum. CCDT = -101.8°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CAS Bluecoll	600/25°	200µ nodata	4100 Å	3ci	G=2580	Dome T = $+3.8^{\circ}\text{C}$	
								4ci		Stellar 9.5 pixel Blue shift	
								5ci			
1330	2"	9.4	AO	[Identified as H065138]				6ci	WRONG STOP.	Row 275 continuum 2k ADU SUM AVG of 5 cols	
								7ci			
								1ci		mean = 177.91 $\sigma = 10.93$	
								2ci		15k ADU max/pixel	
4 frames		9.4		No wind		200µ	4100 Å			Dome SW (no wind)	
								7ci		thin cloud	
290	2"	B=11.98		[2.1" min west of intended]				8ci		500 ADU SUM AVG of 3 cols	
290	2"	"		(Found on SPDs charts, VERY faint)				9ci		Field drawn [Comp seen 3' NW of object]	
								10ci			
								1ci		mean = 178.56 $\sigma = 10.79$	
								2ci		3.5-15k ADU/pixel	

113 #2 Wed-Thurs

Date 1991 APR 3/4..... Observers SPD-Ty.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01571	BS15621-037	10 13 17.5	+24	22 39 40	23 15 00				
1572	BS15621-037			23 16 00	23 48 00				
1573	Comp						Clear	Felt	40s
1574	Comp						"	Felt	40
1575	BS16026-000	12 14 15.4	+29 51 49	23 58 20	00 23 00				
1576	"			00 23 50	00 50 30				
1577	Comp							Felt	40
1578	BIAS(4)								
1579	FLAT at next star posn (BS 16026-056)						Clear	TLING	7.50
1580	Comp						"	Felt	40s
1581	BS16026-056	12 31 45.1	+30 56 21	01 05 10	01 35 10	00 32 W			
1582	"	"	"	01 35 20	02 06 00				
1583	Comp								
eq	focus test Comp pos (CC F00096)			stellar pos (CC F00097)			Clear	Felt	40/40
	" " Comp posn (CC F00098)			" "	99	"	"	"	"

Spectr. Temp. Dome Temp./Hum. $+14^{\circ}$ 50% Transparency Conditions ... 51.12.27.114...
 Focus ... 6.85 ... pg#2
 Spectr. Temp. Dome Temp./Hum. DDO 74 encoder norm on

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
310	42"	^B 11.87			600/	200 μ	4100A	10ci?		set to after reset of DDO 74 1.4 K ADU SUM AVG of 7 cols	
318								11ci	HOK ADU SUM	AVG of 5 cols set to	
								12ci			
1055	42"	^B 10.43						12ci	(1.63 K ADU of 5 cols)	(Fld checks out well)	
1125								13ci		CCDT = +00.3°C	
								14			
								1ci		mean = 178.26 $\sigma = 10.7$	
								2ci		3-13 K ADU/pixel	
								14ci			
520	(42" 2")	^B 11.17						14ci	1.35 K ADU	SUM AVG of 5 cols	
508								15ci			
T = +00.6 °C					600/	200 μ	4100A	(16/17ci)	Focus set 6.85		
+00.6 °C								18/19	7.00 (light on at Red end)		

115 Pg #3

Date 1991 APR 3/4 Observers SPD... T4.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01584fts	Comp						clear	FeA	40s
1585fts	BIAS(4)								
1586	BS 16027-038	13 08 28.2	+32 44 11	02 45 10	03 17 00	W			
1587	"			03 17 06	03 48 00	3 09 W			
1588	Comp						clear	FeA	40s
1589	F/9 +						"	TUNG	7sec
1590	Comp						"	FeA	40s
1591	HD 144579	16 01 30	+39 24	03 59 30	04 07 00	00 34 W			
1592	Comp							FeA	40s
Fm000316	In HD 144579	16 01 30	+39 24	04 08		00 36 W	4x Int	'N' made	
1593	Comp							FeA	40s
1594	Nova Her 91	18 44 13	+12 10 51	04 37 20	04 53 40	01 22 E			
1595	Comp			04 57 20			clear	FeA	40s
1596	Nova Her 91			04 56 20	05 09 00	E			
1597	Comp						clear	FeA	40s

Spectr. Temp. Dome Temp./Hum. $70.6^{\circ} \text{C} / 55.5\%$

[illegible]

118

Dome Temp./Hum.

Focus
Set 7.00
6.80

119

Heurikon time set to WWV
astro clock 20^s ahead of WWV

Date 1991 April 5/6 Observers S.p.d./P.d.r.....

Emulsion Batches:

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Plate No.	Object	R. A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1601	Bias (4)			21 24					
1602	Comp						clear	FeA	40 ^s
1603	Comp							FeA	40 ^s
1604	HD 65583	07 52.2	+29 27	21 33	22 00 56				
1605	Comp			2			clear	FeA	40 ^s
1606	Flat						clear	Tung	75
1607	Comp			22 33					
1608	HD 65583	"	"	22 39 30	22 59 30				
1609	Comp						clear	FeA	40 ^s
1610	Flat							Tung	7
1611	Comp		19 50.0				clear	FeA	40 ^s
1612	BS 16026-001	12 15 23	32 16 19	23 22 05	23 52 45-23 5				
1613	Comp								
1614	Flat								
1615	Comp								

Spectr. Ten

Focus..6

Spectr. Ten

Exp. Mr.

E80

4010

433

[illegible]

Date 1991 April 5/6 Observers Spd/Pdr

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[illegible]

Exp. Mtr.

22

Dome Temp./Hum. 89.4 → 91.1 (closed down)

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
700	3".5	B = 10.01	A	CC	600/25	200μ	4100A				Water again	
610											Water	
423								23ci 24ci 25ci			mean = 176.29 σ = 11.87 Closed down high humidity	
All to Perseus + WORM up to												
CC 01627.55												

Date 1991 Apr 6/7 Observers Kdr/Hdy

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[illegible]

175

Date 1991 Apr 7/8 Observers Pdr / [Hdy]...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1628	✓ Bias			20 06					
1629	✓ Comp			20 13				FeA clear	120 ^S
1630	✓ HD 133640	15 00 30	+48 03	20 21 50	20 27 50	5 50 E			
1631	✓ "			20 29 30	20 35 45				
1632	✓ "			20 36 40	20 42 40				
1633	✓ "			20 43 00	20 49 00				
1634	✓ Comp								120
1635	✓ Flat							Tung	15 ^S
1636	✓ HD 133640			21 07 00	21 13 30	5 00 E	47 45		
1637	✓ "			21 14 50	21 20 40				
1638	✓ "			21 22 30	21 28 30				
1639	✓ "			21 29 30	21 35 30				
1640	✓ Comp								
1641	✓ Flat			21 50				Tung ND.6	5 ^S
1642	✓ Comp			21 56				FeA clear	120 ^S

Spectr. Ten
Focus...
Spectr. Ten

Exp. Mir.

6250

7605

8170

8420

8670

7550

6750

6100

[illegible]

127 #2

Date 1991 Apr 7/8 Observers Par / [Eddy] / Mki

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter Exp.	
1643✓	HD 133640			22 01 50	22 07 50				
1644✓	"			22 09 00	22 15 00	4 03 E			
1645✓	"			22 15 25	22 21 25	3 55 E			
1646✓	"			22 22 40	22 28 40				
1647✓	Comp								
1648✓	Flat							Tung ND.6	55
1649✓	HD 133640			22 42 25	22 48 52				
1650✓	"			22 51 00	22 57 00				
1651✓	"			23 00 15	23 06 15				
1652✓	"			23 07 30	23 13 30	3 04 E			
1653✓	Flat								
1654✓	Comp								
1655	HD 133640			23 26 56	23 32 56				
1656	HD 133640			23:35:45	23:41:45				
1657	"			23:43:00	23:49:00				

Spectr. Ter

Focus....

Spectr. 1

Exp. Mtr.

8400

8390

7610

10150

8900

9790

9400

7800

81

13,000

6,500

4,000

Spectr. Temp. Dome Temp./Hum. 18.6 / 56.4 Transparency Conditions Clear 128
 Focus 6.70
 Spectr. Temp. Dome Temp./Hum.

Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	8400				CCD	1800/	250 μ	6560Å	14a	14a	44; 800	
	8390								15a			
	9610								16			
	10150								17			
55												
	8900								18a	3a	Clouds	
	9790								18a			
	9400								19a			
	7800								20a		Clouds	
									22			
									22			
	13,000								22			
	6,300								23.		dark	
	6,100								24		clouds	

129

#3

Date 1991 Apr 7/8

Observers

Par 1 [Hdy] / MKI

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1658✓	HD B3640			23:51:03	23:57:03				360
1659✓	Fe-A Comp.			23:59:25					120
1660✓	HD 133640			00:16:42	00:17:42				360
1661✓	"			00 19:15	00 25:15				
1662✓	"			00 28 10	00 34 10				
1663✓	"			00 35 40	00 41 40				
1664✓	Comp							FeA Clear	120 ^s
1665✓	Flat							Tung ND.6	5 ^s
1666✓	HD 133640			00 56 15	01 02 15	1 15 E			
1667✓	"			01 04 00	01 10 00				
1668✓	"			01 11 20	01 17 20				
1669✓	Flat							Tung ND.6	5 ^s
1670✓	Comparison								
1671✓	Bias (4)			01 42					
1672	Dark - 6m			01 43					

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

7000

13,500

12,800

13,200

12,400

9400

6700

4940

Transparency Conditions *Few Doubts* (30)

Spectr. Temp.

Dome Temp./Hum.

[illegible]

121

pg #1

Wed - Thurs

Date 1991 Apr 10/11... Observers KK (c. F. Armon) / P. L. T. n

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT 819.	Comparison							FeNe	600
820	Comparison							FeNe	900
821	Flat					(I guess NDC 3 was in place and Diffuser IN)		Tung A = 1/2	7200
ce02517A	BIAS (4)								
2518	Comp							ThA	10s
2519	HD 125351	14 13.48	35 58	00 57 10	01 57 12	00 38W			
2520	Comp (Spekcomp. BAT)							ThA	10s
ce02521	Flat for HD 125351					00 40W	+35 35	TUNG	120s
FIT 822	Comp for Sheet Spekcomp. BAT					f18 stop IN	DIFFUSER IN *	FeNe	900s
TAG FIT 823	HD 137909	15 23.7	+29 27	02 45 07	03 15				
TAG FIT 824	"			03 15 58	03 46 15	01 17 W			180s
825	Comp			03 49		f18 stop IN	DIFFUSER OUT	FeNe	900s
FM003A	In HD 137909	15 23.7	+29 27	04 07			W4x INT	"N" mode	

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions Clearing . . . by . 22 EST.

ccd front

wind dying down too.

0 0 256 1024 4 1

S/kozy

132

[illegible]

133 pg 2

Date 1991 APR 10/11 Observers Pdr - Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce02522	BIAS (4)								
2523	Comp			04 26 25				ThA	10s
✓ 2524	HD137909	15 23 07	+29 27	04 26 25	05 05 00	2 38W			
2525	Comp							ThA	10s
2526	FLAT							TUNG	
2527	"								
2528	"								
FIT00 CE 826	FLAT for PCS speckle work			05 44 (on Timer)				platform	7200

Note Apr 14.. This Flat (826) was done after a Spect Controller Failure and there may have been slight movement to grating when Resetting controller. In a pure way, this flat is not ideal for previous night speckle obs, but relevant to next night.

Jn

Focus

Spectr. Temp.

Exp. Mr.

6255

22/20

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Ecdelle	X grating	80 μ	4280 μ	1ci	X grating 4:1 H = .3520 H = 400 μ = .225	mean CCD T = -10/0°C	183.79 $\sigma = 4.6$
				Ecdelle 1725	1200 lines/mm	.269		7ci		Tel focus 2255	
2000	6"	B 3.93	Fop					8ci	H = 600 μ = .205		
A 2600/2000				PTS	1800/51°	300 μ	4860A		To	ce 02528 is noted to have been put on worm, Tr	

135 pg#1

Thurs - Fri

Emulsion Batches:

Date 1991 APR 11/12... Observers ... Pdr - Ty

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce02529	Bias (4)			19 51					
2530	Comp			19 55				Th A	10s
2531	HD 98839	11 17.2	+44 02	20 00 20	21 00 40	1 20 E			
2532	Comp							Th A	10s
2533-34	Flats							TUNG	120 ^s
2535-36	FLats							TUNG	
2537	Comp							Th A	10s
2538	HD 98839	11 17.2	+44 02	21 53 40	22 52 50	0 32 W			
2539	Comp							Th A	10s
2540	Comp								
2541	HD 115735	13 13 59	+50 12 29	23 00 50	23 57 50				
2542	Comp								
2543	Comp								
2544	HD 133962	15 02 07	+48 32	00 12 10	01 07 00	0 56 E			
2545	Comp							Th A	10s
2546	Bias (4)								

Spectr. Temp. Dome Temp./Hum. ... 3°C ... 50% Transparency Conditions ... *Max T.I.X. Clear* ... (36)

Focus 355

Spectr. Temp. Dome Temp./Hum. (0 0 256 1024 4 1) *CCOEMI 30CGAIN*Topup @ *HIDEST*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Central Emulsion	P.H.	Program	Remarks	Quality
	$\approx 1''$			CCD Echelle <i>17.25</i> 17.25	x grating 1200 l/n/mm	80 μ .269	4280 $\text{\AA}$	1	x grating tilt =	Slit H = 600 μ = .205 micrometer mean = 181.84	$\sigma = 4.15$
1660	$\approx 4''$	B = 6.00	G8II					2		over 13 cols 11.7K photons above dark	
								3		image = 2/3 600 μ slit length $\approx 4''$	
								4			
						80 μ .269	4280 $\text{\AA}$	4	x grating = .3520	1700ADU MAX/PIXEL Slit H = 800 μ = .185 micrometer	
				(Echelle 17.25 still)		80 μ .269	4070 $\text{\AA}$	4	x grating = .3880	1200ADU MAX/PIXEL Slit H = 800 μ = .185 micrometer	
								5	Slit H = 600 μ	Est 8.7K photons above dark for 11 cols	
2013	$\approx 4''$	B = 6.00	G8II					6		FM000318.1N taken at Slit view 39x39 (Intx10)	
								7		CCDT = -101.7 $^{\circ}\text{C}$	
1680		B = 5.08	B9.5IIIp					8			
								8			
1252		B = 5.57	A0V α					8	x grating .3880	CCDT = -100.2 $^{\circ}\text{C}$	
											mean = 182.00 $\sigma = 4.06$

pg #2

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
827	Comp (Spekcomp) BAT			01 17 20		f18 stop IN	Diffuser OUT A = clear	FenNe	900s
TAG FIT 828	HD 137 909	15 23.7	+29 27	01 37 00	03 26 30	1 01 W			
829	Comp			03 37		f18 Stop IN	Diffr-out A = Clear	FenNe	900s
CeOJSA7.ftS	Comp for HD137909							Th A	10s
✓ 2548	HD 137909.	15 23.7	+29 27	04 14 50	05 00 25	2 35 W			
2549	Comp							Th A	10s
2550	BIAS(4)								
2551	FLAT							TUNG	120s
2552	FLAT							"	"
2553	DARK								900s
FIT830	FLAT (for PCS)		on Timer						7200s
GCF 65	focus -IN			T= 46.0					20s
bb	-OUT			F= .235					20s

139

Date 1991 Apr 17/18 Observers Srt/Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2554	Bias (4)								
2555	Dark 15m								15m
2556	" "								"
2557	" "								"
2558	Bias (4)								
2559	Bias (4)								
2560	Comp			21 52				Th A	10 ^s
2561	HD 77912	9 00 10	38 51	21 59	22 29	2 49 W			
2562	"			22 29 50	23 00				
2563	Comp							Th A	10 ^s
2564	HD 77912	"	"	23 06 30	23 36 30	3 56 W			
2565	"			23 38 30	24 05 07	4 25			
2566	Comp							Th A	10 ^s
2567-71	Comp FLAT					4 26 W	+38 35	TUNG	60 ^s
2572-75	HD 131156	14 46 46	19 30 57			"	"	"	"

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

217

211

151

123

Spectr. Temp. Dome Temp./Hum. 4.3 / 73.2% Transparency Conditions Hazy 142

Focus

Spectr. Temp. Dome Temp./Hum. slit 00 256 1024 4 1 ccd fnt

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H. Height	Program	Remarks	Quality
					CCD echelle	16.70	90μ .265	3934Å	600μ .205		x grating .412 1200 l/mm	143.13 σ = 6.65
15m												
"												
"												
												141.48 σ = 6.79
												141.59 σ = 6.84
10 ^s												
	217		B = 5.60	671-II								
	211											
10 ^s											Comp source found on during 2 previous exposures	
	151											
	123	3" variable										
10 ^s											clouds	
60 ^s									800μ .185			
"									1900μ .073			
					All in Perseus + WORM							

141

Date 1991 April 18/19 Observers Srt / Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
02576	Bias (4)			17 48					
2577	Dark 15m			17 50					
2578	"								
2579	"								
2580	Bias (4)			18 58					
2581	"								
2582	Comp			20 08				ThA	10 ^s
2583	HD 94264	10 47 43	34 45 14	20 11 20	20 31 00	0 53 E			
2584	"	"	"	20 31 38	20 52 00				
2585	Comp							ThA	10 ^s
2586	Comp							ThA	10 ^s
2587	HD 113226	12 57 12	11 29 48	21 27	21 57	01 35 E			
2588	"	"	"	22 04	22 34 12				
2589	Comp								
2589	HD 113226	"	"	22 37					
2590	Comp							ThA	10 ^s

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mr.

H62

204

55

[illegible]

103 #2

Date 1991 Apr 18/19 Observers Srt/Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2591	HD 124897	14 11 06	19 42 11	23 07 35	23 28	1 18 E			
2592	"			23 28 28	23 48	0 57 E			
2593	Comp								
2594	HD 124897	"	"	23 51	00 11	0 35 E			
2595	Comp							Th A	10 ^s
2596	HD 113226			00 22					
2596	Comp							Th Ar	10 sec
2597	HD 113226	12 ^h 57 ^m 12 ^s	11° 29' 48"	00:22	00:52				
2598	Comp							Th Ar	10 sec
2599	HD 113226	"	"	00:57	01:27	01 55 W			
2600	Comp								
2601	Comp								
2602	HD 180711	19 12 32	67 29 08	02:05					
2601-06	Flats					00h	+20 00		150 ^s

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

2829

4705

9590

477

224

Spectr. Temp. Dome Temp./Hum. 5.0/73.3 Transparency Conditions Cirrus, hazy 104

Focus
Spectr. Temp. Dome Temp./Hum. 4.1/69.6
width Height

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2829		B = 1.19	K2 III	CCD echelle	16.70	90 μ 0.265	3934 Å	600 μ 0.205	α Boo		
4705											
9590											
										Clouds	
477		B = 3.77	G8 III	CCD echelle	16.70	90 μ 0.265	3934 Å	600 μ 0.205	E Vir		
324											
										Clouds	
All in Perseus & WORM								800 μ 0.185			

145
#1

Date 1991 Apr 22/23 Observers Hdy / R;

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc10012.Fts	BIAS (1)			22:43:30		0 ^h	+43°5	BIAS	0
cc10021.Fts	BIAS (1)				22:44:15				
cc10022.Fts	FLAT			22:51:30		0 ^h	+43°5	TUNG CLEAR	3.5s
cc10031.Fts	FLAT				22:52:52				
cc001673.Fts	BIAS (4)			23:26:20					
cc001674	FLAT (TUNG)			23:27:20				TUNG CLEAR	3.5s
001675	FeA Comp	HT		23:29:11				FeA CLEAR	120 s
001676	BV Dka	HD 135421 15 ^h 9 ^m 9 ^s	+62°13'	23:36:15	23:43:45				
001677	HD 135421			23:43:55	23:51:45				
001678	HD 135421			23:51:55	23:58:55				420s
001679	HD 135421			23:59:06	00:06:06				420s
001680	HD 135421			00:06:17	00:13:17				420s
001681	FeA COMP			00:14:00	00:16:00			FeA CLEAR	120s
001682	TUNG FLAT			00:16:47				TUNG CLEAR	3.5s
001683	HD 135421			00:20:17	00:27:17	0 ^h 59 ^m E			420s

Spectr. Te

Focus....

Spectr. Te

Exp. Mr.

830

831 651

700

740

743

810

512 0 38 1024 41 cdfmt
CCD T = -101.85°C

Exposure Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
0					Cass CCD	1800 G=5505	250 μ		1c;		10xBIAS	
									10c;			
3.5s									11c;		10xFLAT	
									20c;			
									1c;			
3.5s									2c;			
120s									3c;			
	830								4c;		Brighter of Pair	
	1021 651								5c;			
420s	700								6c;			
420s	740								7c;			
420s	748								8c;			
120s									9c;			
3.5s									10c;			
420s	810								11c;			

#2 ¹⁴⁷

Date 1991 Apr. 22/23 Observers Hdy / R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
C 001684 ✓	HD 135421			00:27:26	00:34:26				420s
C 001685 ✓	HD 135421			00:34:38	00:41:38				420s
C 001686 ✓	HD 135421			00:41:50	00:48:50				420s
C 001687 ✓	HD 135421			00:49:04	00:56:04				420s
C 001688 ✓	HD 135421			00:56:16	01:03:16				420s
C 001689 ✓	TUNG FLAT								3.5s
001690 ✓	FeA COMP			01:04:39					100s
001691 ✓	HD 135421			01:08:40	01:15:40				
CC001692 ✓	HD 135421			01:15:51	01:22:51				
CC001693 ✓	HD 135421			01:23:30	01:30:30				
CC001694 ✓	HD 135421			01:31:00	01:38:00	00h 12w	+61°57.5		
CC001695 ✓	HD 135421			01:38:30	01:45:30				
CC001696 -	HD 135421			01:46:00	01:53:00				
CC001697 -	COMP			01:56:00				FeA COMP	100s
CC001698 -	FLAT			01:59:00					3.5s

Spectr. Tem.

Focus.....

Spectr. Tem.

Exp. Mtr.

847

863

806

851

850

862

824

964

1006

846

822

Spectr. Temp. Dome Temp./Hum. $+3.0^{\circ}\text{e} / 83.9\%$ Transparency Conditions ^{MOSTLY} CLEAR 148....

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
420s	847								12ci			
420s	863								13ci			
420s	806								14ci			
420s	851								15ci			
420s	850								16ci			
3.5s									17ci			
100s									18ci			
	862								19ci			
	924								20ci			
	964								21ci			
	1006								22ci			
	946								23ci			
	962								24ci			
100s									25ci			
3.5s									26ci			

#3 149

Date 1991 APRIL 22/23 Observers Hdy - Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 001699	HD 135421			02:01:00	02:08:00				
CC 001700	HD 135421			02:08:30	02:15:30				
CC 001701	HD 135421			02:16:00	02:23:00				
CC 001702	HD 135421			02:23:30	02:30:30				
CC 001703	HD 135421			02:31:00	02:38:00				
CC 001704	HD 135421			02:38:30	02:45:30				
CC 001705	HD 135421			02:46:00	02:53:00				
CC 001706	FLAT			02:54:00				TUNG CLEAR	3.55
CC 001707	COMP			02:55:00				FeA CLEAR	100s
CC 001708	HD 135421			02:58:00	03:05:00				
CC 001709	HD 135421			03:05:30	03:12:30				
CC 001710	HD 135421			03:13:00	03:20:00				
CC 001711	HD 135421			03:20:30	03:27:30				
CC 001712	HD 135421			03:28:00	03:35				
CC 001713	HD 135421			03:35:30	03:42:30				

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mr.

921

954

941

905

925

998

916

945

734

784

798

755

739

Spectr. Temp. Dome Temp./Hum. Transparency Conditions (50...

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	921								21ci			
	954								28ci			
	941								29ci			
	905								30ci			
	925								31ci			
	998								32ci			
	916								33ci			
35									34ci			
100									35ci			
	845								36ci			
	734								37ci			
	784								38ci			
	798								39ci			
	755								40ci			
	739								41ci			

#4 151

Date 1991 Apr 22/23

Hdy - Ri

Emulsion Batches:

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[illegible]

Transparency Conditions 15-2

Spectr. Temp.

Dome Temp./Hum. 1: 8°C....8.2%

[illegible]

153

Date 1991 Apr 23/24... Observers Hdy - Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc+0032.fts	10 BIASES			22:03:40		0 ^h	+43°5		
cc+0041.fts					22:04:16				
cc+0042.fts	10 FLATS			22:07:40	22:08:16	← FIRST 5		TUNG CLEAR	3.5s
cc+0051.fts				22:09:00	22:09:36	← LAST 5			
cc+0052.fts	10 BIASES			22:12:25	22:12:25				
cc+0061.fts					22:13:06				
cc+0062.fts	10 FLATS			22:16:00	22:16:30	← FIRST 5			1.8s
cc+0071.fts				22:17:35	22:18:05	← LAST 5			
cc+0072.fts	10 BIASES			22:21:32					
cc+0081.fts					22:22:23				
cc+0082.fts	10 FLATS			22:25:09					0.9s
cc+0091.fts					22:26:00				
cc+0092.fts	DARK LIGHTS OFF			22:51:30	(23:21:30)				1800s
cc+0093.fts	DARK "			23:27:49	(23:57:49) AST CLOCK TIME				1800s
cc+0094.fts	DARK "			01:19:34	(01:49:34) C55 TIME				1800s

← RESET HEURIKON

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

Spectr. Temp. Dome Temp./Hum. Transparency Conditions OVERCAST 15% ..

Focus

Spectr. Temp. Dome Temp./Hum. +8.6°C / 66.2% 508 0 38 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G = 5505	250μ		5ci 14ci		0 cgain T = -101.8°C	
3.5s											
										30 cgain	
1.8s											
										90 cgain	
0.9s								55ci 64ci			
1800s								64ci		0 cgain	
1800s								63ci		30 cgain	
1800s								62ci		90 cgain T = -101.9°C	
										SET TO 30 cgain afterwards	

pg #1 155

Date 1991 Apr 24/25 Observers Hdy - Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC#1724.FTS	FLAT			19:52:28				Tung #	20s
CC#1725.FTS	FeA COMP			19:55:02				FeA CLEAR	100s
CC#1726.FTS	BIAS (4) 5sec delays			19:57:53					
NDT	MOON			20:05:15	20:07:52				
SAVED	MOON			20:16:50	20:17:50				
	MOON			20:20:50 20:19:25	20:26:50		-0°58.6		
CC#1727.FTS	SCATTERED LIGHT FROM MOON			20:30:50	20:31:29				
CC#1728.FTS	MOON TRAILED			20:34:45	20:37:12	00:43 E	-0°44.6		
CC#1729.FTS	MOON TRAILED			20:38:25	20:40:50	00:43 E	-6°3'		
CC#1730.FTS	MOON TRAILED			20:42:28	20:45:05	00:43 E			
CC#1731.FTS	FLAT			20:48:00				Tung CLEAR	5s
1732	FLAT							Tung CLEAR	12.5s
1733	FLAT							Tung CLEAR	12.5s
1734	FLAT							Tung CLEAR	12.5s
1735	FLAT							Tung CLEAR	12.5s

Spectr. Te

Focus

Spectr. Te

Exp. Mtr.

88000

Spectr. Temp. Dome Temp./Hum. 10:30c 65.4% Transparency Conditions 156.

Focus FANS "ON"

Spectr. Temp. Dome Temp./Hum. ... 10.

512 0 38 1024 4 1 ccd fnt

CCDT = -100c 90 cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2s				CASS CCD	1800/4800	250 μ		3ci	Hyd Prog.	CCD FILLED UP @ 19:35	
100s				"	"	250 μ		4ci			
				"	"	250 μ		1ci		mean = 135.75 5sec delays between each = 5.12	
				"	"	250 μ		5ci		SATURATED	
				"	"	250 μ		5ci		SATURATED	
88000				"	"	250 μ		5ci		PARTLY SATURATED	
						"		5ci		NOT TRAILED ON MOON CGAIN CLOUDS	SCATTERED LIGHT NORTH OF MOON
						"		6ci		THIN CGAIN CLOUDS	TRAILED AT "SETTING"
						"		7ci		CGAIN NO CLOUDS	SPEED IN RA ACROSS THE ENTIRE WIDTH OF THE MOON
								8ci		CGAIN NO CLOUDS	
								9ci			
12s								10ci			
12s								11ci			
12s								12ci			
12s								13ci			

#2 157

Date 1991 April 24/25 Observers ... Hdy - Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCP 1736	FeA Comp			20:54:32				FeA CLEAR	120s
1737	BAAS(4)			20:57:00					
1738	BIAS(4)			20:59:00					
1739	FLAT			21:10:00				TUNG FeA	18s
CCP 1740	COMP			21:13:00				FeA CLEAR	120s
1741	HD 135421	15 9.9	+62° 13'	21:17:12	21:24:12				
1742	"			21:24:18	21:31:18				
1743	"			21:32:00	21:39:00				
1744	"	"	"	21:39:30	21:46:30				
1745	"	"	"	21:47:00	21:54:00				
1746	COMP			21:56:00				FeA CLEAR	100s
1747	FLAT			21:59				TUNG FeA	18s
1748	HD 135421			22:01:00	22:08:00				
1749	"			22:08:30	22:15:30				
1750	"			22:15:35	22:22:35				
1751				22:23:00	22:30:00				

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mtr.

820

820

825

850

813

092

130

115

114

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 158

Focus

Spectr. Temp. Dome Temp./Hum. .. 8.5°C ... 60.2%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1205				CASS CCD	1800/4800	250		14ci		0c gain	
				"	"	"		1ci		0c gain	mean = 187.96
								1ci		9p gain	$\sigma = 11.53$
											135.06
											$\sigma = 15.32$
180				CASS CCD	1800/4800	200	CCD	15ci		9p gain	
1205				"	"	"	"	16ci		"	
	820	7.8		"	"	"	"	17ci			
	820			"	"	"	"	18ci			
	825			"	"	"	"	19ci			
	850			"	"	"	"	20ci			
	813			"	"	"	"	21ci			
1105				"	"	"	"	22ci			
195				"	"	"	"	23ci			
	997							24ci			
	1030							25ci			
	1155							26ci			
	1114							27ci			

#3 159

Date 1991 APRIL 24/25 Observers Hdy - Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1752	HD 135 421	15 ^h 9.9	+62° 13'	22:30:30	22:37:30	2 ^h 41E	+61° 57'		
1753	FLAT			22:38:30				TUNG 1/4	18s
1754	COMP			22:40				Fe A CLEAR	100s
1755	HD 135 421	15 ^h 9.9	+62° 13'	22:42:30	22:49:30				
1756	"	"	"	22:50:00	22:57:00				
1757	"	"	"	22:57:30	23:04:30				
1758	"	"	"	23:05:00	23:12:00				
1759	"			23:12:30	23:19:30	1 ^h 57E	+61 57'		
1760	COMP			23:21				Fe A CLEAR	100s
1761	FLAT			23:24				TUNG 1/4	18s
1762	HD 135 421	15 ^h 9.9	+62° 13'	23:25:00	23:32:00				
1763				23:32:30	23:39:30				
1764				23:40:00	23:47:00				
1765				23:47:30	23:54:30				
1766				23:55:00	00:02:00	1 ^h 16E	+61° 57'		
1767	FLAT			00:03				TUNG 1/4	18s

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mr.

1160

1278

1348

1376

1454

1520

1410

1405

1397

1341

1440

Spectr. Temp. Dome Temp./Hum. *8.4°C...60-2%* Transparency Conditions *Good* *160...*

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1160		7.8		CMS CCD	1800/4800	200		28ci		90c gain	
18s					"	"	250		29ci			
10s					"	"	"		30ci			
	1278		7.8		"	"	"		31ci			
	1348								32ci			
	1376								33ci			
	1454				"	"	"		34ci			
	13:20								35ci			
10s					"	"	"		36ci			
18s					"	"	"		37ci			
	1418		7.8		"	"	"		38ci			
	1405								39ci			
	1397								40ci			
	1341								41ci			
	1440								42ci			
19s									43ci		4353 ADU	

#4 161

Emulsion Batches:

Date 1991 APRIL 24/25 Observers Hdy - Ri

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1768 -	COMP			00:04				Fe A CLEAR	100s
1769 -	HD 135421	15h 9.9	+62° 13	00:07	00:14				
1770 -	"	"	"	00:14:30	00:21:30				
1771 -	"	"	"	00:22:00	00:29:00				
1772 -	"	"	"	00:29:30	00:36:30				
1773 -				00:37:00	00:44:00	00h 38 E	+61° 57'		
1774 -	COMP			00:45				Fe A CLEAR	100s
1775 -	FLAT			00:48				TUDG 1/4	18s
1776 -	HD 135421	15h 9.9	+62° 13	00:49:00	00:56:00				
1777 -	"	"	"	00:56:31	01:03:30				
1778 -	"	"	"	01:04:00	01:11:00				
1779 -				01:11:30	01:18:30				
1780 -				01:19:00	01:26:00	00h 07W	+61° 58'		
1781 -	FLAT			01:27				TUDG 1/4	18s
1782 -	COMP			01:28				Fe A CLEAR	100s
1783 -	HD 135421			01:30:30	01:37:30				

Spectr. Temp. Dome Temp./Hum. Transparency Conditions .. *good* *162* ..

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>100s</i>				<i>CAS ccd</i>	<i>180 4800</i>	<i>250μ</i>		<i>44ci</i>		<i>90cgrin</i>	
<i>1539</i>		<i>7.8</i>		<i>u</i>	<i>u</i>			<i>45ci</i>			
<i>1515</i>				<i>u</i>	<i>-</i>			<i>46ci</i>			
<i>1524</i>				<i>-</i>				<i>47ci</i>			
<i>1455</i>				<i>-</i>	<i>-</i>			<i>48ci</i>			
<i>1378</i>								<i>49ci</i>			
<i>100s</i>				<i>u</i>	<i>-</i>	<i>u</i>		<i>50ci</i>			
<i>18s</i>				<i>u</i>	<i>-</i>	<i>-</i>		<i>51ci</i>		<i>14200 ADU</i>	
<i>1332</i>								<i>52ci</i>			
<i>1365</i>								<i>53ci</i>			
<i>1343</i>								<i>54ci</i>			
<i>1237</i>								<i>55ci</i>			
<i>1075</i>								<i>56ci</i>			
<i>18s</i>								<i>57ci</i>		<i>14531 ADU</i>	
<i>100s</i>								<i>58ci</i>			
<i>1006</i>								<i>59ci</i>			

5 163

Date 1991 APRIL 24/25 Observers H. d. y. - R. j.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1784 -	HD 135421	15h 9.9	+62° 13'	01:38:00	01:45:00				
1785 -				01:45:30	01:52:30				
1786 -				01:53:00	02:00				
1787 -				02:00:30	02:07:30	0° 49' W	+61° 58'		
1788 -	COMP			02:09:00				FeA CLEAR	10s
1789 -	FLAT			02:12:00				TUNG 1/4	18s
1790 -	HD 135421	15h 9.9	+62° 13'	02:27:10	02:34:10				
1791 -	"	"	"	02:34:30	02:41:30				
1792 -	"	"	"	02:42:00	02:49:00				
1793 -	"			02:49:30	02:56:30				
1794 -	"			02:57:00	03:04:00				
1795 -	FLAT			03:05				TUNG 1/4	18s
1796 -	COMP			03:06				FeA CLEAR	100s
1797 -	HD 135421	15 9.9	+62° 13'	03:08:30	03:15:30				
1798 -	"			03:16:00	03:23:00				
1799 -				03:23:30	03:30:30				

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mr.

1007

994

1005

1000

1005

1005

1024

1150

1165

1335

1437

18s

100s

148

140

316

Spectr. Temp. Dome Temp./Hum. *7.2°C ... 59.9%* Transparency Conditions ... *Good* *164*...

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1007		78		CASS CCD	1800 48W	250		60ci		90 cgain	
994								61ci			
1005								62ci			
1000								63ci			
				2	-	-		64ci		<i>ERROR #33</i> <i>HARDWARE ERROR; 68000 ADD EXCEPTION</i>	
				2	-	-		65ci		14858 ADU	
1024		78		2	-	-		03ci			
1150								4ci			
1165								5ci			
1335								6ci			
1437								7ci			
								8ci		14847 ADU	
								9ci			
1448								10ci			
1440								11ci			
316								12ci			

#6 165

Date 1991 APRIL 24/25. Observers ... Hdy - R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1800	HD 135421	15 9.9	+62°13	03:31:00	03:38:00				
1801	"	"	"	03:38:30	03:45:30				
1802	COMP			03:46:20				FeA CLEAR	100s
1803	FLAT			03:48:40				TUNG 1/4	18s
1804	HD 135421			03:50:00	03:57:00				
1805	"	"	"	03:57:30	04:04:30				
1806	"	"	"	04:05:00	04:12:00	2434W	+61°58'		
1807	FLAT			04:13:30				TUNG 1/4	18s
1808	COMP			04:14:30				FeA CLEAR	100s
1809	HD 158148	17:22.5	+20 10	04:23:00	04:25:36				
1810	HD 158148	"	"	04:27:10	04:29:47	0°58W	+20°8'		
1811	COMP			04:31:30				FeA CLEAR	100s
1812	FLAT			04:34:00				TUNG 1/4	18s
1813	BIAS(4)			04:35:30					
CCD 1814	DARK			04:41:30	04:56:30				

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

1406

1474

1620

1654

1606

6000

6000

Spectr. Temp. Dome Temp./Hum. ... $+6.8^{\circ}\text{C}$... 58.4% Transparency Conditions ... good ... 166....

Focus

Spectr. Temp. Dome Temp./Hum. ... $+6.6^{\circ}\text{C}$... 57.6%

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1406		7.8			1800 4800	250		Bei		90cc gain	
	1474								14ci			
10s						✓	✓	✓	15ci			
18s						✓	✓	✓	16ci		15057 ADU	
	1620								17ci			
	1654								18ci			
	1606								19ci			
15s									20ci		14023 ADU	
2 10s									21ci			
	6000		5						22ci			
	6000		5						23ci			
100s									24ci			
18s									25ci		14653 ADU	
									1ci			mean = 132.72
									26ci			$\sigma = 15.31$

#1

167

Date 1991 April 25/26 Observers Pdr/[Hdy]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc0 1815✓	Bias (4)								
1816✓	Flat							Tung A=1/4	
1817✓	Comp			20 47				FeA Clear	100 ^s
1818✓	HD 135421	15 09 54	+62 13	20 58		4:09 E			420 ^s
1819✓	"	"	"	21 07	21 14	4:00 E			
1820✓	"	"	"	21 16 10	21 23 30	3 50 E			
1821✓	"	"	"	21 26 05	21 33 05	3 42 E			
1822✓	"	"	"	21 35	21 42	3 33 E			
1823✓	Comp							FeA Clear	100 ^s
1824✓	Flat							Tung A=1/4	18 ^s
1825✓	HD 135421	"	"	21 59 30	22 06 30	3 08 E			
1826✓	"	"	"	22 08 26	22 15 26				
1827✓	"	"	"	22 17 20	22 24 20	2 50 E			
1828✓	"	"	"	22 25 50	22 32 50	2 41 E			
1829✓	"	"	"	22 33 45	22 40 45	2 34 E			

Spectr. Tem

Focus... 6

Spectr. Tem

Exp. Mtr.

1600

1590

1670

1610

1525

1375

1340

1150

1058

970

Spectr. Temp. Dome Temp./Hum. 11:9./...49.2 Transparency Conditions Clear 168

Focus 6.70

512 0 38 1024 4 1 ccdfmt

Spectr. Temp. Dome Temp./Hum.

FANS "OFF"

90 cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCDCass	1800/45.2	250μ	H _p	1ci		G=4800 H BAS ^{meq=140.76}	σ=14.67
								2ci		15.5K ADU MAX	
								3ci			
1600	~3"	7.8						4	BV Dra		
1590								5			
1570								6			
1610								7			
1525								8			
								9			
								9		14.5K	
1375								10			
1300								11			
1150								12			
1058								13			
970								14			

169 #2

Date 1991 April 25/26 Observers Pdr / [H4]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1830	✓ Comp							FeA Clear	100 ^s
1831	✓ Flat							Tung A=1/4	18 ^s
1832	✓ HD 135421	15 09 54	+62 13	22 52 20	22 59 20				
1833	✓ "	"	"	23 00 40	23 07 40	2 07 E			
1834	✓ "	"	"	23 09 10	23 16 10	1 58 E			
1835	✓ "	"	"	23 17 05	23 24 05	1 50 E			
1836	✓ "			23 25 20	23 32 20	1 42 E			
1837	✓ Flat							Tung A=1/4	18 ^s
1838	✓ Comp							FeA Clear	100 ^s
1839	✓ HD 135421			23 43 00	23 50 00	1 24 E			420 ^s
1840	✓ "			23 52 00	23 59 00	1 15 E			"
1841	✓ "			00 00 15	00 07 15				"
1842	✓ "			00 09 02	00 16 02				"
1843	✓ "			00 17 00	00 24 00	0 50 E.			"
1844	Comp.			00 27 45				Fe-A Clear.	100 ^s

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mir.

707

715

745

930

1030

1250

140

~1500

~1600

~1410

Spectr. Temp. ~~1011~~ 507

Dome Temp./Hum. 10.1/50.7

Transparency Conditions *Few Cirrus* *170*...

Focus

Spectr. Temp.

Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100S					CCD Cass	1800/45.2	250μ	H _p	15			
100S									15		15.4K ADU MAX	
	707	~3.5"	7.8	5.5					15ci	BV Dra		
	715								16			
	745								17			
	930								18			
	1030								19			
18S									20			
100S									20			
420S	1250								20			
"	1410								21			
"	~1500								22			
"	~1600								23			
"	~1480								24			
100S									25			

Spectr. Temp. Dome Temp./Hum. 8.5/55.5 Transparency Conditions Some cirrus 17.2.
Mostly clear
 Focus
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
18'				CCD Cas	1800 45.2	250	Hp	25			
670		7.8						25	BV Pra		
"								26			
"								27			
								28			
								29			
1205								30			
18								30			
1005								30			
1090								30			
1066								31			
1027								32			
950								33			
923								34			
								35			
								35			

173 #4

Date 1991 Apr 25/26 Observers Pdr / [Hag]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CO 1860 ✓	HD 135421	15 09 54	+62 13	02 21 40	02 28 40	1 15 W			
1861 ✓	"			02 30 05	02 37 05				
1862 ✓	"			02 38 10	02 45 10	1 31 W			
1863 ✓	"			02 46 00	02 53 00				
35, 1864 ✓	"			02 53 55	03 00 55	1 46 W			
1865 ✓	Flat							Tung A=1/4	18S
1866 ✓	Comp							FeA clear	100S
1867 ✓	HD 135421	"	"	03 12 30	03 19 30				
1868 ✓	"	"	"	03 21 40	03 28 40	2 14 W			
1869 ✓	Comp								
1870 ✓	Flat								
1871 ✓	Bias (4)								
	FM 000319, PDR	HD 1630 75		(no object name, no observer name)					
	FM 000320, PDR	"	"	(only 3 frames)					
1872 ✓	Comp							FeA clear	100S

Transparency Conditions *Haze or Cirrus*

Focus

Spectr. Temp. Dome Temp./Hum.

174

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	668		7.8		CCD Cas	1800 48.2	250 μ	H β	35	BV Dra		
	600	3"							36			
	604								37			
	594								38			
	523								39			
18s									40		15.3K ADU MAX	
100s									40			
	411								40			
	293								41			
									42			
									42			
											HBIAS	
											mean = 122.47 + = 15.23	
100s									43			

Date 1991 Apr 25/26

Observers Pdr / [Hdy]

Emulsion Batches:

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.....

.....

[illegible]

Spectr. Temp.

Dome Temp./Hum. 8.2/63.

Transparency Conditions

Spectr. Temp.

Dome Temp./Hum.

$$T_{CCD} = -102.05$$

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	6000		5			$\frac{1800}{45.2}$	250	H β	43ci		stat. stat. stat	
											HBIAS	mean = 133.81 $\sigma = 15.2$
											All backed up to Persius + work	

171

Date 1991 April 26/27

Observers

Pdr / IMKIJ

calling in

Emulsion Batches:

FANS "ON"

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM 000 321, PDR	HD 85373	09 46 18	+38 24		20 41		"N" mod	4/80 sec int	
CCO 1877	Bias (4)								
1878	Comp			21 02				FeA clear	100 ^s
1879	Flat			21 05				Tung A=1/4	18 ^s
1880	HD 135421	15 09 54	+62 13	21 09 20	21 16 20	3 55 E			
1881	"	"	"	21 18 20	21 25 20	3 46			
1882	"	"	"	21 26 40	21 33 40	3 38 E			
1883	"	"	"	21 35	21 42	3 29			
1884	"	"	"	21 43	21 50	3 21 E			
1885	Flat							Tung A=1/4	18 ^s
1886	Comp							FeA clear	100 ^s
1887	HD 135421	"	"	22 02	22 09	3 02 E			
1888	"	"	"	22 10 40	22 17 40				
1889	"	"	"	22 18 30	22 25 30	2 46 E			
1890	"	"	"	22 26 55	22 33 55				

Spectr. Te

Focus...

Spectr. Te

Exp. Mtr.

868

1020

809

112

960

742

55

88

65

Spectr. Temp. Dome Temp./Hum. 13.5/46.2 Transparency Conditions *Few clouds + Haze*
 Focus ... *6.70* 90 cgain 178
 Spectr. Temp. Dome Temp./Hum. 511 0 38 1024 4 1 ccd fnt

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V=6.74	Fov	CCDCass	1800/45.2	250 μ	Hp 4861A		seeing test	31x31 box	
					G=4800				dome south		mean=142.61 sigma=17.50
										15.6 K ADU MAX	
								4ci	BV Dra		
								5ci			
								6ci			
								7ci			
								8ci			
								9ci		15.7 K	
								9ci			
								9ci			
								10ci			
								11ci			
								12ci			

179 #2

Date 1991 Apr 26/27 Observers Pdr / CMK

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
001891✓	HD 135421	15 09 54	+62 13	22 34 35	22 41 35	2 30 E			
01892✓	Comp								
01893✓	Flat								
01894✓	HD 135421	"	"	22 51 45	22 58 45	2 12 E			
01895✓	"	"	"	23 00 10	23 07 10				
01896✓	"	"	"	23 09	23 16				
01897✓	"	"	"	23 17 40	23 24 40				
01898✓	"	"	"	23 26 40	23 33 40	1 37 E			
01899✓	Flat								
01900✓	Comp								
01901✓	HD 135421	"	"	23 43 30	23 50 30				
1902✓	"	"	"	23 52 00	23 59 00				
1903✓	"	"	"	00 00 00	00 07				
1904✓	"	"	"	00 08 30	00 15 30				
1905✓	"			00 18 30	00 25 30				

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mir.

964

883

950

860

877

870

820

850

820

Spectr. Temp. Dome Temp./Hum. 12.9/49.2 Transparency Conditions ... Clear 1.80.

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
984		7.8		CCD Cass	1800/45.2	250 μ	H α	13a	BV Dra		
883								14a			
								15			
950								16			
860								17			
877								18			
								19		15.4K ADV MAX	
								19			
	2.5"							19			
670	3.5"							20a			
720											
1080								22			
940								23		Large movement along slit.	

181 #3

Date 1991 Apr 26/27 Observers Pdr / mki (arr. 0^h15)

Emulsion Batches:

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc 0 1906 ✓	Comp			00 27 30				Fe A Clear	100'
1907 ✓	Flat			00 31 00				Tung A=1/4	18
1908 ✓	MD 135421	15 09 54	+62 13	00 34 30	00 41 30				420
1909 ✓	"			00 42 40	00 49 40				"
1910 ✓	"			00 50 30	00 57 30				"
1911 ✓	"			00 58 30	01 05 30				
1912 ✓	"			01 06 20	01 13 20				
1913 ✓	Flat							Tung A=1/4	18
1914 ✓	Comp							Fe A Clear	
1915 ✓	HD 135421			01 23	01 30	0 20 W			
1916 ✓	"			01 32	01 39	0 28 W			
1917 ✓	"			01 40 15	01 47 15				
1918 ✓	"			01 48 05	01 55 05	0 44 W			
1919 ✓	"			01 56	02 03	0 53 W			
1920 ✓	Comp								

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

3.44.

0.00.

1150.

1300

1330.

320

1105

2.60

2.50

1.60

3.13

Spectr. Temp. Dome Temp./Hum. 120/48.5 Transparency Conditions Clear 10.2.

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
13	1300.				CCD Cass	1800/45.2	250μ	H _β	24			
18									24			
420	1000.		7.8						24	BV Dra.		
11	1150.								25			
13	1300								25*			
13	1330.								26			
13	1320								27.			
15											15.1K ADU MAX	
11	1105								28			
12	1200	3"							29a			
12	1250								30			
13	1360								31			
13	1313								32			
									33			

Date 1991 Apr 26/27 Observers Pdr/Mki

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum.

Comparison	Exp.
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185

Date 1991 April 27/28 Observers Nki/Pdr

Emulsion Batches:
..FANS. "OFF" ..

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM000 322	HD 103095	11 47 13	38 26 10			"N" mod.	4/80 sec int		
cc 01930 ✓	(H) Bias (4) 01930			23 36					
1931 ✓	Comp							FeA clear	120 ^s
1932 ✓	Flat							Tung A=1/4	3 ^s
1933 ✓	HD 135421	15 09 54	+62 13	23 48 00	23 55 00	1 ^h 11 ^m .			420 ₂
1934 ✓	"			23 56 32	00 : 03 : 32	1 ^h 08 ^m E.			"
1935 ✓	"			00 04 20	00 : 17 : 20	0 ^h 35 ^m E.			"
1936 ✓	"			00 : 12 : 03	00. 19 : 03	0 ^h 48 ^m E.			"
1937 ✓	"			00 : 20 : 00	00 : 27 : 00	0 ^h 38 ^m E.			"
1938 ✓	Flat.							Tung. A=1/4	3
1939 ✓	Comp.							FeA clear.	120.
1940 ✓	HD 135421			00 : 37 : 45	00 : 44 : 45				420 ₂
1941 ✓	"			00 46 : 10	00 : 53 : 10				
1942 ✓	Comp								
1943 ✓	Dark-Ten			00 58 . .					
1944 ✓	(H) Bias (4)								

Spectr. Temp. Dome Temp./Hum. ... 12.3 / 55.3 Transparency Conditions ... Hazy → cloudy 8.8

Focus

Spectr. Temp. Dome Temp./Hum. 90 again

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V = 6.45	G8Vp	CCD Cass	1800	250μ	H ₂ G=6020		Seeing test	Box 31x31	mean = 140.34 σ = 14.65
20											
3 ^S											
420	465							4		Quite hazy. Clouds.	
"	670							5		Less cloud.	
"	~400.							6		Clouds....	
"	~3500.							7*		Clouds. Large moments along slit..	
"	~700.							7		Less cloud.	
3											
120											
420	242							8		Cloud!	
	144							9		Clouds	
								10			
								10			mean = 139.27 σ = 14.76
	All in Persen + mean										

187

Date Apr. 28/29, 1991 Observers Hdy - Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cct 0095.Fts	BIAS 135.510 ADU			21:46:25		D ^h	+43.5		
96	BIAS 135.661								
97	132.845			21:48:14					
98	133.089								
0099	133.016			21:49:14					
0100	133.129								
101	135.906			21:50:14					
102	136.007								
103	135.704			21:52:50					
104	135.846								
105	135.687			21:57:50					
106	135.805								
107	135.766			22:07:50					
108	135.955								
0109	135.750			22:17:50					
cct 0110.Fts	135.947								
111	135.646			22:32:50					
112	135.831								
113	BIAS 135.546			22:47:50					
114	BIAS 135.714								
115	BIAS FLAT			23:00:28				TUNG 1/4	500s
115	100X (5 μ s FLAT - BIAS) 5 sec delays.			23:18:00				TUNG 1/4	5 μ s
116	FLATS			00:49:15	00:50:01			TUNG 1/4	6.0s
118									
119	FeA COMP			00:52:15				FeA CLEAR	100s
120	H BIAS (4)			00:56:45					
0121.Fts	DARK			01:00:10	01:10:10				600s

189

Date 1991 April 30 / May 6 Observers Srt / Per

Emulsion Batches:

FANS "ON"

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
^{ce} 02607	Bias (4)			18:24					
2608	dark 15m			18:25					
2609	"			18 40					
2610	"			18 55					
2611	bias (4)			19 33					
2612	bias (4)			19 36					
2613	Comp			20 52				Th Ar	10 ^s
2614	HD 109379	12 29 08	-22 50 37	20 52 28	21 24 15				
2615	"	"	"	21 26 25	21 56 26				
2616	Comp							Th Ar	10 ^s
2617	HD 109379	"	"	21 58 56	22 28 56	00 11 W			
2618	"			22 30 02	23 00 02				
2619	Comp.	"	"					Th Ar	10 ^s
2620	Comp							Th Ar	10 ^s
2621	HD 131156	14 46 46	19 30 57	23 20 36	23 50 36	00 44 E			
2622	"	"	"	23 52 30	24 22 30	00 12 E			

90 again

 10^5

191 #2

Date 1991 Apr 30/May 1 Observers Srt/Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2623	Comp							ThAr	10 ^s
2624	HD 131156	14 46 46	19 30 57	00 24 19	00 54 19				
2625	"			00 55 12	01 25 17	00 51 W			
2626	Comp			01 26				ThAr	10 ^s
2627	HD 131156			01 27 44	01 57 43	1 24 W			
2628	"			01 59 08	02 29 14				
2629	Comp							ThAr	10 ^s
2630	Comp							ThAr	10 ^s
2631	HD 185144	19 32 33	69 29 28	02 47 36	03 17 36	1 51 E			
2632	"	"	"	03 18 50	03 48 50	1 26 E			
2633	Comp							ThAr	10 ^s
2634	HD 185144	"	"	03 51 45	04 21 45	0 54 E			
2635	Comp							ThAr	10 ^s
2636-41	Flats					00 ^h	+22°	Tung	120 ^s

Spectr. Te

Focus....

Spectr. Te

Exp. Mtr.

230

227

163

132

663

619

673

627

Transparency Conditions 192.

Height

all in Persens - NORM

#1 193

Date 1991 MAY 3/4 Observers Hdy - R1

Emulsion Batches:

F.A.U.S. O.F.F.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Comp								
	HD			00 24 19					
CCØ1945	FLAT			20:26:30				TUNG A8	12s
CCØ1946	COMP			20:28:30				FeA CLEAN	120s
CCØ1947	HD 87901	- 10:03:35	+12°27'	20:33:30	90				
CCØ1948	"	-		20:35:40	57	00°56'W	+12°41'		
CCØ1949	COMP			20:47:00				FeA CLEAN	120s
CCØ1950	FLAT			20:50:00				TUNG A8	12s
CCØ1951	HD 135421	15 09.9	+62°13'	20:52:00	20:59:00				
CCØ1952	"			59:30	20:06:30				
CCØ1953	"			21:11:00	21:18:00				
CCØ1954	"			21:18:30	21:25:30				
CCØ1955	"			21:26:00	21:33:00				
CCØ1956	FLAT			21:34:30				TUNG A8	12s
CCØ1957	Comp			21:39:00				FeA CLEAN	120s
CCØ1958	HBias(4)			21:42:45					

Transparency Conditions 194

DEWAR TOPPED 20100

90 c gain
405 0 38 1024 + 1 ccd fut

Person Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ds					CASS - CCD	1500 6020	282	Hx	c1			
Ds									2ci			
	~6000		1.36	B7V					3ci			
	~6000		1.36	B7V					4ci			
Ds									5ci			
Ds									6ci		+10000 10785	
	886								7ci			
	888								8ci			
	1044								9ci			
	1013								10ci			
	1062								11ci			
									12ci		15705	
									13ci			
									1ei			
											mean = 10.63 σ = 15.15	

#2 195

Date 1991 MAY 3/4 Observers Hdy - R. - Mki.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCP1959	HD135421	15 09.9	+62 13	21:44	21:51				
CCP1960	"	"	"	21:51:30	21:58:30				
CCP1961	"	"	"	21:59:00	22:07:00				
CCP1962	"	"	"	22:07:30	22:14:30				
CCP1963	"	"	"	22:15:00	22:22:00	24 20 E	+61 0 57'		
CCP1964	COMP			22:23:00				Fe H CLEAR	1205
CCP1965	FLAT			22:26:30				TUNG H 1/8	185
CCP1966	HD135421	15 9.9	+62 0 13	22:28:30	22:35:30				420
CCP1967	"	"	"	22:36:00	22:43:00				"
CCP1968	"			22:43:30	22:50:30				"
CCP1969	"			22:51:15	22:58:15				"
CCP1970	"			22:59:30	23:06:30				"
CCP1971	FLAT								18
CCP1972	FLAT							TUNG H 1/8	10
CCP1973	COMP							Fe H clear.	120

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

1052

964

1070

965

948

965

950

937

944

950

18

10

120

Spectr. Temp. Dome Temp./Hum. 5.8... 63% Transparency Conditions 196...

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1052				CASS ccd	1800 6020	250		14ci			
	869								15ci			
	1090								16ci			
	965								17ci			
	948								18ci			
125									19ci		Saturated! -mk:	
185									20ci		16 16196	
421	968								21ci			
"	950								22ci			
"	937								23ci			
"	~940.								24ci			
"	~900.								25ci			
18									26ci		This is saturated!	
10									26ci		9074	
120									27ci			

#3 197

Date 1991 May 3/4..... Observers Mdy - Ri - MKi.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC01974✓	HD135421	15 9.9	+62° 13'	23:26:10	23:33:10				420
CC01975✓	"			23:35:15	23:42:15	1:00 E			"
CC01976✓	"			23:43:00	23:50:00	0:53 E			"
CC01977-	"			23:51:00	23:58:00				
CC01978-	"			23:58:40	00:05:40				
CC01979-	COMP			00:07:30				FeA CLEAR	120s
CC01980-	FLAT			00:09:00				TUNG A 1/2	10s
CC01981-	HD135421	15 9.9	+62° 13'	00:14	00:21				
CC01982-	"	"	"	00:21:30	00:28:30				
CC01983-	"	"	"	00:29:00	00:36:00				
CC01984-	"	"	"	00:36:30	00:43:30				
CC01985-	"	"	"	00:44:00	00:51	84.67W	+61° 57'		
CC01986-	COMP			00:51:45				FeA CLEAR	120s
CC01987-	FLAT			00:54:20				TUNG A 1/2	14s
CC01988-	HD135421	15 9.9	+62° 13'	00:56:00	01:03				
CC01989-	"	"	"	01:03:30	01:10:30				

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

910

900

~ 880

~ 760

620

634

610

655

754

750

813

751

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 198.

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
620	940.				CASS CCD	1820 6020	280u		28ci		Movement along slit... Rach form = 12200	
"	900								29ci		Bad cosmic rays (including a lot more)	
"	880.								30ci			
	~ 760								31ci			
	620								32ci			
1283									33ci			
103									34ci		10427	
	634								35ci			
	610								36ci			
	655								37ci			
	734								38ci			
	750								39ci			
1285									40ci			
143									41ci		12243	
	813								42ci			
	755								43ci			

#4 199

Date 1991 MAY 3/4... Observers Hdy - Ri.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCP1990 -	HD 135421	159.9	+62° 13'	01:11:00	01:18:00				
CCP1991 -	"	"	"	01:18:30	01:25:30				
CCP1992 -	"	"	"	01:26:00	01:33:00	00h 50W	61° 58'		
CCP1993 -	FLAT			01:34:00				TUNG A+B	15s
CCP1994 -	COMP			01:35:00				Fe A CLEAR	120s
CCP1995 -	HD 135421	159.9	+62° 13'	01:38:00	01:45:00				
CCP1996 -	"	"	"	01:45:30	01:52:30				
CCP1997 -	"	"	"	01:53:00	02:00:00				
CCP1998 -	"	"	"	02:00:30	02:07:30				
CCP1999 -	"	"	"	02:08:00	02:15:00	01h 33W	+61° 58'		
CCP2000 -	COMP			02:16:00				Fe A CLEAR	120s
CCP2001 -	FLAT			02:18:45				TUNG A+B	15s
CCP2002 -	HD 135421	159.9	+62° 13'	02:20:00	02:27:00				
CCP2003 -	"	"	"	02:27:30	02:34:30				
CCP2004 -	"	"	"	02:35:00	02:42:00				
CCP2005 -	"	"	"	02:42:30	02:49:30				

Spectr. Te

Focus....

Spectr. Te

Exp. Mtr.

762

693

711

711

667

703

60

07

950

56

42

5

Spectr. Temp. Dome Temp./Hum. 5.3 69.3% Transparency Conditions 200

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	762				CASS CCD	$\frac{1800}{6020}$	20L		41ci			
	693								45ci			
	719								46ci			
1/5									47ci		12895	
2/12									48ci			
	711								49ci			
	667								50ci			
	793								51ci			
	960								52ci			
	1107								53ci			
1/10									54ci			
1/5									55ci		12923	
	950								56ci			
	1156								57ci			
	147								58ci			
	164								59ci			

#5 201

Date 1991 MAY 3-4 Observers Hdy-Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter Exp.	
CCP2006	HD 135421	15 9.9	+62° 13'	02:50:00	02:57:00	24 15W	+61° 58'		
CCP2007	FLAT			02:58:00				TUNG A/B	15s
CCP2008	COMP			02:59:00				Fe A CLEAR	120s
CCP2009	HD 135421	15 9.9	+62° 13'	03:02:00	03:09:00				
CCP2010	"	-	-	03:09:30	03:16:30				
CCP2011	"	-	-	03:17:00	03:24:00				
CCP2012	"	-	-	03:24:30	03:31:30				
CCP2013	"	-	-	03:32:00	03:39:00				
CCP2014	COMP			03:39:45				Fe A CLEAR	120s
CCP2015	FLAT			03:42:45				TUNG A/B	15s
CCP2016	HD 135421			03:44:00	03:51:00				
CCP2017	"	-	-	03:51:30	03:58:30	034 16W	+61° 58'		
CCP2018	FLAT			03:59:45				TUNG Fe A	15s
CCP2019	COMP			04:00:40				Fe A CLEAR	120s
CCP2020	COMP			04:02:45				Fe A CLEAR	120s
CCP2021	FLAT			04:10:30				TUNG A/B	15s

Spectr. Tem.

Focus.....

Spectr. Tem.

Exp. Mir.

096

093

090

097

023

090

090

093

Spectr. Temp. Dome Temp./Hum. 4.5 70.9% Transparency Conditions 20.2

Focus

505 0 38 1029 41

Spectr. Temp. Dome Temp./Hum.

90.9212

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1096				CHSS CCD	1800 6020	2502		60ci			
155						'		61ci		12686	
1205						'		62ci			
1093						'		1ci			
990								2ci			
974								3ci			
10123								4ci			
980								5ci			
1205								6ci			
155								7ci		12353	
900								8ci			
903								9ci			
155								10ci		12333	
1205								11ci			
1205								12ci			
155								13ci		12516	

Date 1991 MAY 3-4 Observers Hdz-Ri

FANS OFF

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mr.

20170

428

Spectr. Temp. Dome Temp./Hum. 3:1 ... 75% Transparency Conditions ... good ... 204

Focus

Spectr. Temp. 42-100

Dome Temp./Hum. 2:7 ... 76.7%

905air
CCDFMT = 505 0 38 1024 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20000		5.39	B6V		1800 6020	250μ		14ci			
24208								15ci			
								16ci		12441	
								17ci			
								18ci			
								19ci			
								20ci			
								21ci			
								22ci			
								23ci			
								24ci			
								25ci			
								26ci			
								27ci			
								28ci			
								29ci			
								30ci			
								31ci			
								32ci			
								33ci			
								34ci			
								35ci			
								36ci			
								37ci			
								38ci			
								39ci			
								40ci			
								41ci			
								42ci			
								43ci			
								44ci			
								45ci			
								46ci			
								47ci			
								48ci			
								49ci			
								50ci			

mca4 = 144.23
σ = 15.76

205

Date 1991 May 4-5 Observers [Hdy] R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02028	HB145(4)			00:39					
CC02029	COMP			00:43				FeA CLEAR	120s
CC02030	FLAT			00:46				TUNG A6	16s
CC02031	HD 158148	17 22.5	+20° 10	00:53	01:08:30				
CC02032	HD 158148			01:10:30	01:26:13				
CC02033	FLAT			01:37:40				TUNG A6	16s
CC02034	COMP			01:39:00				FeA CLEAR	120s
CC02035	HD 135421	15 09:09	+62° 13	01:43:00	01:50:00				
CC02036	"	"	"	01:50:30	01:57:30				
CC02037	"	"	"	01:58:00	02:05:00				
CC02038	"	"	"	02:05:30	02:12:30	01 34W	+61° 57'		
CC02039	COMP			02:15:00				FeA CLEAR	120s
CC02040	FLAT			02:18:40				TUNG A6	15s
CC02041	7min DARK			02:21:30	02:28:30				
CC02042	HD 135421			02:41:00	02:48:00				
CC02043	"			02:48:30	02:55:30				

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mir.

1238

1364

1513

150

17

18

Spectr. Temp. Dome Temp./Hum. ... 7.3°C ... 69.3% Transparency Conditions ... Some ... CLOUDS ... 206

Focus

Spectr. Temp. Dome Temp./Hum.

90582

585 0 38 1024 4 1

Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	-				CASS CCD	1800 6020	250μ	T=-1002	1ci		DEWTR TOPPED mean = 132.67 19.11 σ = 15.49	
2s									2ci			
1/5	30000								2ci		13527	
			539	86V					3ci		9871	
									4ci			
1/5									5ci		14023	
1/2s									6ci			
	1238								7ci			
	1364								8ci			
	1513								9ci			
	1150								10ci		CLOUDS	
1/2s									11ci			
1/5									12ci		13093	
									13ci			
	1117								14ci			
	1195								15ci			

52 207

Date 1991 MAY 1-5 Observers [Hdy] R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02044	HD 135421	15 09 09	+62° 13'	02:56:00	03:03:00				
CC02045	"			03:03:30	03:10:30				
CC02046	"			03:11:00	03:18:00	2°40W	+61°57'		
CC02047	FLAT			03:18:45				TUNG A ^{1/2} FeA CLEAR	16s
CC02048	COMP			03:20:00					120s
CC02049	HD 135421	15 09 09	+62° 13'	03:23:30	03:30:30				
CC02050	"	-	-	03:31:00	03:38:00				
CC02051	"	-	-	03:38:30	03:45:30				
CC02052	"	-	-	03:46:00	03:53:00				
CC02053	"	-	-	03:53:30	04:00:30	3°23W	+61°57'		
CC02054	COMP			04:01:20				FeA CLEAR	120s
CC02055	FLAT			04:04:20				TUNG A ^{1/2}	16s
CC02056	HD 135421	15 09 09	+62° 13'	04:06:00	04:13:00				
CC02057	"	-	-	04:13:30	04:20:30				
CC02058	"	-	-	04:21:00	04:28:00	3°49W	+61°57'		

Spectr. Te

Focus....

Spectr. Te

Exp. Mtr.

1255

1250

930

116s

100

1170

260

357

1210

1310

479

Spectr. Temp. Dome Temp./Hum. $6-2^{\circ}\text{C}$ 72.7% Transparency Conditions 208

Focus

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1255				CASS CCD	1800 6020	270μ		16ci			
	1250								17ci			
	930								18ci		clouds	
16s									19ci		13835	
120s									20ci			
	1165								21ci			
	1200								22ci			
	1170								23ci			
	260								24ci			
	307				-	-	-	-	25ci			
12s									26ci			
16s									27ci		13650	
	1210								28ci			
	1310								29ci			
	1479								30ci			

Date 1991 May 4-5 Observers [mdy] Ri

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[illegible]

Focus

Dome Temp./Hum.

Transparency Conditions 240

Spectr. Temp.

Dome Temp./Hum. 6.0°C... 71.9%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CAS CCD	1800 6020	25u		31xi		13650	
								32ci			
								32ci			
										mean = 130.68	
										$\sigma = 15.7$	

Date 1991 May 7/8... Observers Mki/Pdr.....

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[illegible] $\beta = \frac{1}{2}$
$$A = 5$$
 $A = 170$

6-10

$\frac{1}{2} = 0.5$

 $\beta = 20$

Dome Temp./Hum. 63./63.8.

Transparency Conditions

Focus

Spectr. Temp.

Comparison	Exp.
1. $\frac{1}{2}$ vs $\frac{1}{4}$	1.00
2. $\frac{1}{2}$ vs $\frac{1}{8}$	1.00
3. $\frac{1}{2}$ vs $\frac{1}{16}$	1.00
4. $\frac{1}{2}$ vs $\frac{1}{32}$	1.00
5. $\frac{1}{2}$ vs $\frac{1}{64}$	1.00
6. $\frac{1}{2}$ vs $\frac{1}{128}$	1.00
7. $\frac{1}{2}$ vs $\frac{1}{256}$	1.00
8. $\frac{1}{2}$ vs $\frac{1}{512}$	1.00
9. $\frac{1}{2}$ vs $\frac{1}{1024}$	1.00
10. $\frac{1}{2}$ vs $\frac{1}{2048}$	1.00
11. $\frac{1}{2}$ vs $\frac{1}{4096}$	1.00
12. $\frac{1}{2}$ vs $\frac{1}{8192}$	1.00
13. $\frac{1}{2}$ vs $\frac{1}{16384}$	1.00
14. $\frac{1}{2}$ vs $\frac{1}{32768}$	1.00
15. $\frac{1}{2}$ vs $\frac{1}{65536}$	1.00
16. $\frac{1}{2}$ vs $\frac{1}{131072}$	1.00
17. $\frac{1}{2}$ vs $\frac{1}{262144}$	1.00
18. $\frac{1}{2}$ vs $\frac{1}{524288}$	1.00
19. $\frac{1}{2}$ vs $\frac{1}{1048576}$	1.00
20. $\frac{1}{2}$ vs $\frac{1}{2097152}$	1.00
21. $\frac{1}{2}$ vs $\frac{1}{4194304}$	1.00
22. $\frac{1}{2}$ vs $\frac{1}{8388608}$	1.00
23. $\frac{1}{2}$ vs $\frac{1}{16777216}$	1.00
24. $\frac{1}{2}$ vs $\frac{1}{33554432}$	1.00
25. $\frac{1}{2}$ vs $\frac{1}{67108864}$	1.00
26. $\frac{1}{2}$ vs $\frac{1}{134217728}$	1.00
27. $\frac{1}{2}$ vs $\frac{1}{268435456}$	1.00
28. $\frac{1}{2}$ vs $\frac{1}{536870912}$	1.00
29. $\frac{1}{2}$ vs $\frac{1}{1073741824}$	1.00
30. $\frac{1}{2}$ vs $\frac{1}{2147483648}$	1.00
31. $\frac{1}{2}$ vs $\frac{1}{4294967296}$	1.00
32. $\frac{1}{2}$ vs $\frac{1}{8589934592}$	1.00
33. $\frac{1}{2}$ vs $\frac{1}{17179869184}$	1.00
34. $\frac{1}{2}$ vs $\frac{1}{34359738368}$	1.00
35. $\frac{1}{2}$ vs $\frac{1}{68719476736}$	1.00
36. $\frac{1}{2}$ vs $\frac{1}{137438953472}$	1.00
37. $\frac{1}{2}$ vs $\frac{1}{274877906944}$	1.00
38. $\frac{1}{2}$ vs $\frac{1}{549755813888}$	1.00
39. $\frac{1}{2}$ vs $\frac{1}{1099511627776}$	1.00
40. $\frac{1}{2}$ vs $\frac{1}{2199023255552}$	1.00
41. $\frac{1}{2}$ vs $\frac{1}{4398046511104}$	1.00
42. $\frac{1}{2}$ vs $\frac{1}{8796093022208}$	1.00
43. $\frac{1}{2}$ vs $\frac{1}{17592186044416}$	1.00
44. $\frac{1}{2}$ vs $\frac{1}{35184372088832}$	1.00
45. $\frac{1}{2}$ vs $\frac{1}{70368744177664}$	1.00
46. $\frac{1}{2}$ vs $\frac{1}{140737488355328}$	1.00
47. $\frac{1}{2}$ vs $\frac{1}{281474976710656}$	1.00
48. $\frac{1}{2}$ vs $\frac{1}{562949953421312}$	1.00
49. $\frac{1}{2}$ vs $\frac{1}{1125899906842624}$	1.00
50. $\frac{1}{2}$ vs $\frac{1}{2251799813685248}$	1.00
51. $\frac{1}{2}$ vs $\frac{1}{4503599627370496}$	1.00
52. $\frac{1}{2}$ vs $\frac{1}{9007199254740992}$	1.00
53. $\frac{1}{2}$ vs $\frac{1}{18014398509481984}$	1.00
54. $\frac{1}{2}$ vs $\frac{1}{36028797018963968}$	1.00
55. $\frac{1}{2}$ vs $\frac{1}{72057594037927936}$	1.00
56. $\frac{1}{2}$ vs $\frac{1}{144115188075855872}$	1.00
57. $\frac{1}{2}$ vs $\frac{1}{288230376151711744}$	1.00
58. $\frac{1}{2}$ vs $\frac{1}{576460752303423488}$	1.00
59. $\frac{1}{2}$ vs $\frac{1}{1152921504606846976}$	1.00
60. $\frac{1}{2}$ vs $\frac{1}{2305843009213693952}$	1.00
61. $\frac{1}{2}$ vs $\frac{1}{4611686018427387904}$	1.00
62. $\frac{1}{2}$ vs $\frac{1}{9223372036854775808}$	1.00
63. $\frac{1}{2}$ vs $\frac{1}{18446744073709551616}$	1.00
64. $\frac{1}{2}$ vs $\frac{1}{36893488147419103232}$	1.00
65. $\frac{1}{2}$ vs $\frac{1}{73786976294838206464}$	1.00
66. $\frac{1}{2}$ vs $\frac{1}{147573952589676412928}$	1.00
67. $\frac{1}{2}$ vs $\frac{1}{295147905179352825856}$	1.00
68. $\frac{1}{2}$ vs $\frac{1}{590295810358705651712}$	1.00
69. $\frac{1}{2}$ vs $\frac{1}{1180591620717411303424}$	1.00
70. $\frac{1}{2}$ vs $\frac{1}{236118324143482$	

213

Date 1991 May 8/9... Observers Mki/Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT 00841, 842	TUNGSTEN							ND=20	
842	Comp							A=1/4	7200
843	AD Leo	10 16 54	+20 07 19	22 15: 42	23 15 42	3 45 W		Fe A	
844	"			23 55 10	00 09 00	4 38 W		A=1/4	200
845	Comp							Fe A	
846	Tungsten							A=1/4	200
1991 May 9/10		Mki/Pdr							
FIT 00847	Tungsten							ND=20	
								A=1/4	7200

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

~110

~80

215

Fri - SAT

Date 1991 May 10/11 Observers Par/Tm [r.G]

Emulsion Batches:

FAN'S ON

(Even, on
odd day off)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT00848	Tungsten			19:30	20:26			Tung ND2.0	3400
849	Comp			20:32				A=1/2 FeA	200
FM000323 .Pdr	HD 98839	11 17.2	+44 02	20:38		20010W	+43 32	"N" mode	
850	HD 9883.9	11 17.2	+44 02	20:52		2 32 W		ND0.6	
851	"			21:57	22:57				
852	Comp			22:58					
Fm000324.Tn	HD 125351	14 13.8	+35 58	23 08		00 13 E		"N" mode	
FIT00853	"	"	"	23 23	00 23	01 02 W		ND0.6	
FIT00854	"	"	"	00 26 10	01 26 00	02 6 W		ND0.6	
855	Comp						F18 stop in no filter	FeA A=1/2	2005
856	HD 129972	14 40.3	+17 23	01 34	02 34	02 46 W		ND0.6	
857	"	"	"	02 36 35	03 36 00	03 49 W		ND0.6	
858	Comp							FeA	2005
859	HD 131156	14 46.8	+19 31	03 42 30	04 05 35	04 12 W		ND0.6	
860	Tungsten			11:40				ND0.6	7200

Spectr. Temp. Dome Temp./Hum.

No wind noticed. Funson by 1945

[illegible]

217 2 Sat Night Tours Looked at Jupiter

SAT sun

Date 1991 MAY 11/12 Observers Pdr-Tn

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. $+19^{\circ}\text{C}$ 56% Transparency Conditions ... *f.a.r.t. slowly after Tour*

Focus

Spectr. Temp. Dome Temp./Hum. $+17^{\circ}\text{C}$ 78%

Fans not on tonight

218

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>A/B</i> 50-1800	$<2''$	5.08	B95mp	Red Col PCS	1800/464	BS	4100A		RG pgrm	cloud at times <i>stopped due to clouds</i>	
	5/160					"	"	"				
	35/50-1500	$3''-4''$	5.08	B95mp							seeing going. In sat of cloud & haze	
	35/500-1800	$2''-6''$ 4''-6''	"	"							cloud & haze cloud more uniform	
	45/1700	$2''$	5.57	A0V						RG pgrm	hazy no cloud	
	40/1600	$2''$										
	<i>N* mode</i>		7.73	G8111			Fiber Head			Seeing Test	Pome SW light w wind	
	50/1400				PCS	1800/464	BS	4100A				

pg #1 249
Sun - Mon

Emulsion Batches:

Date 1991 MAY 12/13 Observers Srt./Tn.....

Echelle Focus changed From 250 to 270 at start

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2642	BIAS (4)			18 17					
2643	DARK 15 min			18 22					
2644	BIAS (4)			18 39					
2645	DARK 15 min			18 44					
2646	DARK 15 min			19 08					
2647	Comp			20 57				ThA	10s
2648	HD 109 379	12 29 08	+22 50 37	20 59 56	21 30	00 00			
2649	Comp							ThA	10s
2650	HD 109 379	"	"	21 38 19	22 08 19	00 38W			
2651	Comp							ThA	10s
2652	Comp							ThA	10s
2653	HD 113 226	12 57 12	+11 29 48	22 15 05	22 41 11	00 44W			
2654	Comp								10s
2655	HD 113 226	12 57 12	+11 29 48	22 42 58	23 02 58	01 06W			
2656	Comp								10s
2657	HD 113 226	12 57 12	+11 29 48						

Spectr. Temp. 20.1 Dome T.

Dome Temp./Hum. 45% H 20°C

Transparency Conditions 51 hazy 220

Focus 2.70 echelle set

pgm

90 C GAIN

1000 TSCALE

CCDT = -100°C

Spectr. Temp.

Dome Temp./Hum.

Dome open & FANS on early

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit width	Emulsion	P.H. Height	Program	Remarks	Quality
					CCD Echelle	Echelle 16.70	90μ .265	3934A	600μ .205	.	CCD FORMAT 0 10 256 1024 4 1 X grating 0.4100 1200/ngrating	
											2642 mean =	165.68 σ = 5.59
											2644 mean	164.29 σ = 5.77
											stellar 1st exp aborted. (Too slow)	
10s	559	2.5"	3.54	G5II						Srt pgm		
10s			3.54	G5II							FOR 7cols @ 3900Å ≈ 700 ADU above background	
10s	1375	3"	3.77	G8III							@ ≈ 4000 Å cont 7K ADU above background	
10s	889	2"	3.77	G8III								

pg #2 22
Sun Mon

Date 1991 MAY 12/13..... Observers S.F. - Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce02657	HD 131156	14 46 46	+19 30 57	23 09 31	23 39 31	00 07 E			
2658	Comp							ThA	10s
2659	HD 131156	14 46 46	+19 30 57	23 45 05	00 15 05	00 28 W			
2660	Comp							ThA	10s
2661	HD 131156	14 46 46	+19 30 57	00 16 51	00 46 51	01 00 W			
2662	Comp							ThA	10s
Fm000326.Tn	HD 144579	16 01 30	+39 25 36	2 00 50		2 00 00 01 00 W	31x31 pixels	4 frames	0xInt
Fm000327.Tn	"	"	"	2 00 52		2 00 00	"	4 frames	4xInt
2663	Comp							ThA	10s
2664	HD 185144	19 32 33	+69 29 28	01 15 03	01 45 03	2 43 E			
2665	HD 185144	"	"	01 45 58	02 15 58	2 12 E			
2666	Comp							ThA	10s
2667	HD 185144	19 32 33	+69 29 28	02 18 43	02 48 43	1 39 E			
2668	HD 185144	"	"	02 50 40	03 20 40	1 07 E			
2669	Comp							ThA	10s

Spectr. Ten

Focus.....

Spectr. T

Exp. Mr.

269

325

280

" mode

" mode

798

797

736

794

Transparency Conditions... OK 222

pg #2

Dome Temp./Hum.

[illegible]

Date 1991 MAY 12/13 Observers Srt - Tn

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 224

AN FTP to Perseus, only

pg#1 ²⁵ Mon TUES

Date 1991 MAY 13/14... Observers S.r.t...T.n.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter Exp.	
ce02677	Bias (4)								
2678	DARK 15 min;	2 ce02679 DARK (15 min)							
2680	BIAS (4)								
2681	DARK 15 min								
ce02682-87	FLATS					00 00	+10°	TUNG	90s
ce02688	Comp							ThA	10s
2689	HD 77912	09 00 10	+38 51 07	20 22 05	20 52 05	02 54 W			
2690	Comp			53				ThA	10s
2691	HD 77912	09 00 10	+38 51 07	20 53 30	21 13 43	03 16 W			
2692	Comp							ThA	10s
2693	BIAS (4)			21 27					
Fm000328.Tn	HD 108100	12 20.1	+43 25	21 44	4 Frames	00 27 W	[Vissec n	Intx	4
Fm000329.Tn	HD 120245	13 43 11	+38 23 33	22 03	4 Frames	00 37 E		n	n
2694	Comp			22 18 12				ThA	10s
2695	HD 124897	14 11 06	+19 42 11	22 18 12	22 28 23	00 39 E			

Spectr. Ten

Focus.....

Spectr. T

Exp. Mr.

331

127

1" mode
31x31
1" mode
n

2418

Spectr. Temp. Dome Temp./Hum. $+20^{\circ}\text{C}$ 60% Transparency Conditions ... Hazy ... part. Cloudy ...
 Focus 270 8922 Rapid clouding in 226
 Spectr. Temp. Dome Temp./Hum. No Fans Tonight

unison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion λ	P.H. Height	Program	Remarks	Quality
					CCD Edelle	Echelle 16.70	90u .265	3934A		X grating	CCD FMT 0 0 256 1024 1200 l/n/mm 0.4100 mean	4 1 =164.63 $\sigma=5.72$
												mean=163.94 $\sigma=5.79$
90s									1000u .165			
10s									600u .205			
	331	2"	5.6	G7I-II						Srt pgm		
10s												
	127	2"	5.6	G7I-II						Srt pgm	cut short by cloud	
10s												
	"n" mode 3/x 3/pixels "h" mode "n"	V 7.14 V 6.95		F2 K0III	[no wind] Dome West [no wind] Dome SW	EEV CAMERA Edelle	Slit Head " " "		set to 0.100 " "	Seeing Test " "	CCD T = -10.16 medium cloud. Long Slit set " Uniform haze/cloud	mean=161.66 $\sigma=5.91$
10s					CCD Edelle	16.70	90u	3934A	600u .205			
	4418	42"	1.19	K2III						2 Boo Srt std	1 mag qbr cloud	

Date 1991 MAY 13/14..... Observers Sr. Tg.....

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[illegible]

Exp. Mr.

Transparency Conditions ... *Thin cloud*

228

Spectr. Temp. Dome Temp./Hum.

~~Handwritten signature~~[illegible]

Spectr. Temp. Dome Temp./Hum. $+19^{\circ}\text{C}$ 69% Transparency Conditions *Part Cloudy* 23.0
 Focus 270 pg#1 FANS ON & Dome open @ 17 EST - 90 CGAIN
 Spectr. Temp. Dome Temp./Hum. Slit Height

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion x grain	P.H.	Program	Remarks	Quality
				Ccd/ eckelle	18.75	.265 = 900	.4555 2 order = 44818			mean = 165.02 $\sigma = 5.59$	
											163.50 $\sigma = 5.73$
											162.17 $\sigma = 5.82$
										telescope moved ~2" during 2719	
											161.44 $\sigma = 5.64$
							800x	850x			
7000		B 1.19	K0III				600x	600x	std vel		
								600x 1205			
31 x 31 pmt	2"	V 7.14	F2			on échelle slit head →	600x 1205		EEV camera Seeing Test	Dome SW No Wind	6.7 pmt
4000									Fds-pym		

pg #2 231

Emulsion Batches:

Date ..1991.MAY.14/15 Observers ..Fds.-T.~.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce02733	Comp							THA	20s
2734	HD144470	16 00 57	-20 23 54	21 26 22	22 26 22	2 27 E			
2735	Comp			22 27 10				THA	20s
2736	HD 144470	16 00 57	-20 23 54	22 28 00	23 28 00				
2737	Comp			23 28 45				THA	20s
2738	HD 144470	16 00 57	-20 23 54	23 29 45	00 29 45	00 24 E			
2739	Comp							THA	20s
2740	HD 144470	16 00 57	-20 23 54	00 32 20	01 32 20	00 38 W			
2741	Comp			01 32 57				THA	20s
2742	HD 144470	16 00 57	-20 23 54	01 33 38	02 14 05	1 20 W			
2743	Comp				02 14 33				
2744	Comp BIAS(4)				02 19 02				
2745	Comp				02 21 30			THA	20s
2746	HD 193237 ^{RC-19.}	20 14 06	+38 43 19	02 23 10	03 03 10	-02 02 E			
2747	Comp			03 04 20				THA	20s
2748	Comp			03 08 21				THA	20s

Spectr. Temp. Dome Temp./Hum. $+17.6^{\circ}\text{C}$ 72% Transparency Conditions ... *Fine* >32

Focus #2

Spectr. Temp. Dome Temp./Hum. 600 in/min

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	Echelle 18.65	90 μ 1265	X grating .4555				
891	poor	✓ 3.96	B1V						Fds-pgm		
1184		✓ 3.96	B1V								
1504		3.96	B1V								
2136	5"	3.96	B1V							some cloud by 01 EST	
1400	5"	3.96	B1V							no problem after all (NW of pair done)	
										should have been NW of pair. only slightly south of pair on next night and memory. To May 16	
1450	3"	4.89	B1							CCDT = -102.0°C	

→
meqⁿ = 153.25
 $\sigma = 5.92$

#3 233

Date 1991 MAY 14/15 Observers Fds-Tn

Emulsion Batches:

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[illegible]

245 pg 41 Wed-Thurs

Date 1991 MAY 15/16 Observers Fds-Tr. [Ecc.]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE0267	BIAS (4)			18 10 28					
2668	BIAS (4)			18 13 45					
ce02769- 2771	DARKS (15m) x 3								
2772	BIAS (4)			19 07					
ce02773 -02782	Flats (x10)					00 00	-20°	TUNG	25s
ce02783 -ce02792	Flats (x10)					00 00	+35	TUNG	25s
2793	BIAS (4)			19 55 48					
2794	Comp							ThA	20s
2795	HD 124897	14 11 06	19 42 11	20 16 20	20 17 13			ThAr	20/20
2798	HD 83754	09 35 31	-13 52 43	20 25 20	21 00 28	02 20 W		ThAr	20/20
ce02801	HD 120315	13 43 03	+49 48 45	21 08 30	21 11 32	01 20 E		ThAr	20/20
ce02804	HD 144470	16 00 57	-20 23 54	21 24 28	22 24 28	02 26 E		ThAr	20/20
2806	HD 144470	16 00 57	-20 23 54	22 28 07	23 04 53	01 46 E		ThAr	20/20
2808	BIAS (4)								
2809	HD 144470	16 00 57	-20 23 54	23 11 20	00 00 20	00 50 E		ThAr	20/20

Spectr. Tem

Focus ...

Spectr. Tem

Exp. Mir.

6000

930

6000

1690

2000

2000

2000

Transparency Conditions *sl hazy* *236*

00256 1024 41 CCD FMT

90 c gain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Cont'd Emulsion	P.H. Height	Program	Remarks	Quality
				CCD Echelle	18.65	40μ .265	4481A	600μ .205		.4555 x grating tilt	mean = 162.51 σ = 5.77 162.85 σ = 5.76
											164.50 σ = 5.67
											162.42 σ = 5.94
6000		1.19	K011						std vel	CCD T = -101.8°C	
930		5.06	B5V						Fds - ppm		
6000	3"	1.86	B3V								
1690	5"	3.96	B1V							NW of pair	
2000		"	"								
2000	3"	"	"							partially	159.94 σ = 5.80

pg#2 237

Date ... 1991 MAY 15/16 ... Observers Fds - Tn

Emulsion Batches:

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..... COMPS

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce02811A _s	HD 14470	16 00 57	-20 23 54	00 04 00	00 39 25	00 11 E	ce02810 ce02812	ThA	205/205
2813	BIAS(4)								
2814	DARK 15m								
2816	HD 144470	16 00 57	-20 23 54	01 09 00	01 34 23	00 44 W	ce02815 ce02817	ThA	205/205
2818	"	"	"	01 35 30	02 03 43	01 15 W	ce02817 ce02819	ThA	205/205
2820	HD 193237	20 14 06	+37 43 19	02 10 22	02 52 20	02 09 E	ce02820 ce02822	ThA	20/20
2824	HD 190993	20 02 36	+23 19 34	02 56 50	03 23 53	01 26 E	2823 2825	ThA	20/20
2826	"	"	"	03 25 20	03 57	00 53 E	2825 2827	ThA	20/20
Fm000331A _s	HD 176844	18 57 03	+40 32 36	04 08		00 15 W		'N' model	Int x4
2828	BIAS(4)			04 01 20					
2829	BIAS(4)			04 03 40					
2830	BIAS(4)								
2831	DARK 15m								
2832	DARK 15m								
2833	DARK 15m								

Spectr. Ten

Focus

Spectr. Ten

Exp. Mtr.

840

3000

3000

3000

2000

1000

31 pds

Spectr. Temp. Dome Temp./Hum. 18°C 59% Transparency Conditions . *PART... Cloudy* 238...
 Focus: 270 *p442*
 Spectr. Temp. Dome Temp./Hum. 15.8°C 62%
Echelle *slit H* *FANS not on Tonight*

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
203/205	840	3"	$\checkmark$ 3.96	B1 $\checkmark$	CCD Echelle	18.65	965 265	4481A	600 205	Fds pgm	Increasing cloud	mean = 158.54 $\sigma = 5.89$
203/205	2000	4"								Fds pgm	Clearing slightly CCD T = -99.6°C	
203/205	2000	3"								"	-100.8 8 min later	
203/205	2000	3-5"	$\checkmark$ 4.89	B1						Fds pgm	CCD T = -99.7 @ 01:35	
203/205	2000	2"	$\checkmark$ 5.07	B3 $\checkmark$						" 17 Vul		
203/205	2000	42"	"	"							CCD T = -101.6°C	
203/205	31x31 pixels	42"	$\checkmark$ 6.65	M2 III	EEV camera Echelle Head		900 165		600	Seeing Test	no wind at all Dome Facing Wets + mean = 156.94 $\sigma = 5.88$	4.6 pixel mean = 156.91 $\sigma = 5.82$ 156.33 $\sigma = 5.80$
											CCD T = -101.9	

Spectr. Temp. Dome Temp./Hum. 9.4/51.0 Transparency Conditions Mainly Clear 240
 Focus : 270 (few cirrus)
 Spectr. Temp. Dome Temp./Hum. 30 cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	X grating Emulsion Region	P.H.	Program	Remarks	Quality
				CCD Echelle	18.75	90μ .265	.4580 4484A (5 th order down)	600μ .205		600 ln/mm X grating mean = 179.75 σ = 4.54	
3720	4.34 4.34		F2IV								
4525	3"	V=3.6	F9V						β Vir	RV std	
								800μ .185		N 10 000 MAX ADU mean = 176.55 σ = 4.68	
31x31 px		V=6.7	F2	Forget to write observer + object name				EEV Camera Echelle head		no wind, some Dome facing w cirrus 6.4 pixel	
5107		B=3.93	F0p					600μ .205	β CrB	some cirrus	
								800μ .185 600μ .205		N 6800 MAX ADU	

24/ #2 Sat/Sun

Date 1991 May 18/19 Observers Ttg/Pdr

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. *7.7 / 54.8* Transparency Conditions *Few cirrus 242*

Focus *2.7p*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	grat Emulsion Region	P.H.	Program	Remarks	Quality
7200		B = 2.2	A5III	CCD Echelle	18.75	90μ .265	4580 4484 Å	600μ .205	α Oph		
4946		B = 3.93	K2III						β Oph	RV std	
								800μ .185		↑	
										11500 MAX ADU	
3283	4"	B = 3.68	F0IV						δ Aql	Disquiver hang up	
											mean = 179.27 σ = 4.80

243

Sun/Mon

KK

Emulsion Batches:

Date 1991 May 19/20... Observers Tty/Pdr

FANS are OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CEFO102	Hartmann - IN							ThA	60 ^s
103	-out								
104								ThA	60 ^s
105									
ce02868	W 28								
2869	HD 34029 (Capella)	05 09 18	+45 54	20 55 40	20 58 50	7 13 W			
2870	"	"	"	20 06 20	20 07 10				
2871	"	"	"	20 10 45	20 11 27	7 26 W			
2872	Comp							ThAr	30 ^s
2873	Flats x 4							Tung	5 ^s
2876	BTAS (4)							ThAr	30 ^s
2877	Comp								
2878									
2879	HD 102870	11 45 30	02 20	22 05 00	22 25 56	2 08 W			
2880	Comp							ThAr	30 ^s
FM000333, Pdr	HD 128718	14 33.4	48 39	22 45		0 18 E		W'male	Int x4

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

5000

1050

1029

3000

Spectr. Temp. Dome Temp./Hum. ... 11.9 / 49.5 ... Transparency Conditions ... Clear ...

Focus

Spectr. Temp. Dome Temp./Hum. x-grating .2812 (600 ln/min)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60°				CD Echelle	19.00	.277 60μ	.2812 6707A	600μ .205			
										T=14.9 F=.275	
60°											
										T=14.0 F=.255	
5000		0.08	6611	Telescope on reverse mode					SUM AVG ADU = 64000 (10 pix)		
1050		(V)		"		"	"		"	= 14000	"
1029				"		"	"		"	= "	"
30°											
5°								800μ .185		6400 ADU MAX	
30°								600μ		2877 mean = 18060 σ = 4.51	
3000		V = 3.61	F9V						β Vir	RU star SUM AVG ADU = ~ 22000	
30°											
Int										Dome facing w slight breeze from NW	4.3 pix

45 #2 Sun/Mon

Date 1991 May 19/20 Observers Ttg./Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Ce02881	Comp								
2882	HD 137909	15 23 42	29 27 00	23 00 00	23 16 05	0 39 E			
2883	"	"	"	23 18 45	23 38 27	0 17 E			
2884	Comp							Th Ar	30°
2885	Comp							Th Ar	
2886	HD 137107	15 19 06	30 39 00	23 45 45	00 25 45	0 35 W			
2887	Comp								30
2888	Comp							Th Ar	30
2889	HD 159561	17 30 18	12 38 00	00 34 00	00 40 23				
2890	"	"	"	00 44 45	00 51 01				
2891	Comp							Th Ar	30
2892	Comp							Th Ar	30
2893	Bias (4)								
2894	HD 161096	17 38.5	+4 37	01 02 00	01 11 39	0 51 E			
2895	HD 161096	"	"	01 19 00	01 28 38	41 E			

Spectr. Temp. Dome Temp./Hum. 11.8 / 50.0 Transparency Conditions Clear 746

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	19.00	60μ 0.227	6707A	600μ			
3004	~2"		Fop						β CBr	SUM AVG ADU = 19800 over 10 pix's	
3000											
1752	1.5"	B = 6.2	G2V						η CBr		
4003		B = 2.2	A5III						α Oph	SUM AVG ADU = 23500 (over 10 pixel)	
4010		"	"								
2004		B = 3.93	K2 III								
2001									β Oph	RV Std	

mean = 180.14
σ = 4.56

SUM AVG ADU = 23400
over 10 pixels

247 #3

Sun/mm

Date 1991 May 19/20

Observers Ttg/Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
002896	Comp							Th Ar	30 ^s
2897	HD 145001			01 47				"	30 ^s
2898	HD 145001	16 03.6	17 19	01 47	02 17	1 42 W			
2899	Comp								
2900	HD 182640								
2901	HD 182640	19 20 30	02 55 00	02 26	02 56	0 57 E			
2902	Comp							Th Ar	30
2903	Comp								
2904	HD 183912	19 26 42	27 45 00	03 14 45	03 23 45	0 34 E			
2905	Comp							Th Ar	30
2906	Comp →	lost (due to hard disk space problems)						Th Ar	30
^{Cache} 2907	HD 186791	19 41 30	10 22 00	03 32 15	03 40 05	0 33 E			
^{Cache} 2908	Comp							Th Ar	30
1-5 2909	Flats x5					ok	+10°	Tung	2 ^s
2913									
2914	Bias (4)								
2915	Dark - 15m								900 ^s

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

105%

3074
105%

3045

1002

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30 ^S					CCD echelle	19.0	60μ .277	G707	600μ			
30 ^S												
	1051		V = 5.0	G5IV						K Her	RV std [SUM AVG ADU = 11800]	
	3074 1056	3"	B = 3.68	F0 IV						δ Aql	SUM AVG ADU = 21600	
	2045		B = 4.2	K5 II						β Cyg A	SUM AVG ADU = 26900	
	2002		V = 2.62	K3 II								
2 ^S											6400 ADU MAX Bias + Dark done AFTER topup: no change in ^{mech} o = 9.74	
900 ^S											Lower temperature	

x19

Mon / Tue

1991
Date May 20/21 Observers T. Ly. / P. Ar

Emulsion Batches:

FANS are ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
fit00870 sts	Comp						No F18 stop	FeNe	
Q02916	Comp							ThAr	20 ^s
2917	HD137909	15 23 42	29 27 00	21 36	22 06 10	1 46 E			
2918	"	"	"	22 09	22 29	1 22			
2919	Comp							ThAr	20 ^s
2920	Bias (4)								
fit00871	HD137909	15 23 42	29 27 00	22 55	23 55	0 04 W			
*tag 872	"	"	"	23 57 10					
fit00873	Comp						F18 stop	FeNe	200 ^s
874	"						No F18 stop	"	"
FM000334.0	HD153399	(speckle head)						1N1 mode Int x 4	
2921	Comp							ThAr	20 ^s
2922	HD159561	17 30 18	12 38	2 05 15	2 19 49	0 21 W		1N1 mode Int x 4	
2923	Comp							ThAr	20 ^s
2924	Comp							ThAr	20 ^s

Focus 255

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
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20 ^s	20 ^s	20 ^s	20 ^s	20 ^s	20 ^s	20 ^s	20 ^s	20 ^s	20 ^s
				Speckle PTS Echelle CCD	831/39.5 16.90	60μ .277	6500Å + 0.6550 -4020 5170Å	600μ .205	separation 0".085 in 310°
1919	3.1"	B = 3.93	F0p						19000 SUM AVG ADU
1176		"	"						
									mean = 183.15 σ = 4.39
A = 150 B = 100 "		B = 3.93 " "	F0p " "	Speckle PTS as above					
A = 350 B = 220									
				Echelle CCD	Dome pointing W light wind from N 16.90 60μ 5170Å 600μ			31x31 pix box 3.5 Spix 1.5	
3000		B = 2.2	A5 III						Sum Avg ADU 30500

251 #2

Mon/Tue

Date 1991 May 20/21 Observers Tty/Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2925	HD 161096	17 38 30	04 37	02 33 15	02 53 22				
2926	Comp							Th/A	20
2927	Comp			03 04 45				Th/A	20
2928	HD 182640	19 20 30	02 55 00	03 04 45	03 24 45	0 22 E			
2929	"	"	"	03 25 30	03 45 30	0 03 E			
2930	Comp								
2931	Flats x5					oh	+10°	Tung	6 ^s
2935									
2936	BTAs (4)								
2937	Flats x5					oh	+10°	Tung	6 ^s
2941									
← fit 00875 fts flat for speckle							A=1/4	Tung	2h
[05:00]							ND 0.2		

Spectr. Term

Focus . . . 4

Spectr. Terr

Exp. Mtr.

1838

793

775

 $A = 15^\circ$
$$b = 80$$

Spectr. Temp. Dome Temp./Hum.

22

253

pg #1

Date 1991 May 21/22... Observers Pdr./Tr./Jtg.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination APERTURE	Comparison Type/Filter	Exp.
CF 1	Hartmann - IN							FeNe	60 ^s
CF 2	- OUT							"	"
CF 495	comparison			14:24	14:26		Clear	FeNe	120 ^s
CF00496	Comp			[~] 2028			Clear	FeNe	120 ^s
CF00497	HD 103095	11 47.2	+38 26	20 30 50	20 54 00	W			
CF00498	Comp						Clear	FeNe	120s
FM000335	Tr HD 113811	13 01.2	+40 08	21 13		00 12 E		'N' made	4 frames
CF00499	HD 122742	13 58.6	+11° 6 00	21 20 45	22 06 45	0 17 E		'N' made	
CF00500	BIAS (4)			22 09					
CF00501	HD 122742	"	"	22 11 15	22 58 15	0 35 W			
CF00502	Comp						Clear.	FeNe	120s
CF00503	FLAT DARK			23 19			Clear	FeNe	15 min
CF00504	DARK			23 37					15 min
CF00505	FLAT			00 25					5 sec
506	FLAT			00 27					5 sec

Spectr. Ten

Focus 17

Spectr. Ten

Exp. Mtr.

3870

31.31

5767

1136

Spectr. Temp. Dome Temp./Hum. $+21^{\circ}\text{C}$... 61% Transparency Conditions ... PART... Cloudy ... 754.

Focus ... 17.00

Spectr. Temp. Dome Temp./Hum.

374 0 8 1024 10 1 ccd fwt
90 cgain

Exposure	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s					CCD	1800/50.8	250	5170A		camera focus F=17.000		
"						"	"					
120s						1800/52.7	250				(not written apparently T ₄) cols 4,5 - stronger saturated	
120s						"	"		C1	CCD Turned down $\rightarrow -100^{\circ}\text{C}$ at start,		
	3870	2"3'	$\checkmark$ 6.5	G8V		1800/52.7	250	5170A	C2	Asm Sp Kt 2nd priority	SUM AVG ADU = 2500 over 2 pixels	
120s						"	"	"	C3			
4 frames	31x31 pixels		$\checkmark$ 7.53	K5III			FIBER Head.			Seeing Test	NO FANS Tonight Dome WSW Wind Light SW	
	5767	2"	$\checkmark$ 6.2	G8V		1800/52.7		5170A		Asm Sp - Kt Cloudy	sum avg adu = 5000 (over 2 pix) mean = 137.78 $\sigma = 35.32$	
	1136		$\checkmark$ 6.2	G8V						Asm Sp - Kt	VERY Cloudy	
120s									7ci		CCD T = -101.8°C	
15min									8ci			
5sec									10		$\approx 5000/\text{ADU}$	} F stop was out
5sec									11		" "	

Date 1991. MAY. 21/22. Observers T.n. . . . T.ty . . . P.d.a

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[illegible]

Notes

Spectr. Temp.

Transparency Conditions *clearing* 256.

Focus .. 1.7:00.....

Spectr. Temp.

Dome Temp./Hum. $+17.2^{\circ} \dots 65\%$

Exp.

125

12

20

12

165

13

257 pg II 1

wed - Thurs

Date 1991 MAY 22/23.... Observers Pdr/Tn.....

Emulsion Batches:

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Diffuser out for comps

[illegible]

Spectr. Temp.

Dome Temp./Hum. $+23^{\circ}\text{C}$ 58%

Transparency Conditions .51. Hazy... some cloud.....

Focus... 17:00.....

Spectr. Temp.

Dome Temp./Hum. $+18^{\circ}\text{C}$ 70%

400 0 10 1024 4 1 CCD FMT 258

Fang ON & Dome open by 19 40 EST

unison
Exp.

20s

120s

"N" media

240s

120s

120s

120s

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fiber Fed	1800/47.2	250 μ	4300 $\text{\AA}$				
20,030	3"	6.00	G8II							BOCGAIN CCDT -100 $^{\circ}$	
51850	"	"	"							SUM AVG ADU = 1450 over 3 pixels	
51850										SUM AVG ADU = 2700 over 3 pixels	
31x31 pixels		V 6.95	R0III			Fiber Head				(very Light East breeze)	
						Fiber Head		5a		seeing Test Dome IS (SU/)	
22,820	3.4"	5.85	K0III					6a	rg pgm	SUM AVG ADU = 1650 over 5 pixels	
26 329		"	"					7a		"	1900
35 418		4.60	G8:5 II					8a	rg pgm	SUM AVG ADU (5 pixels)	2320
41 400	3"	"	"					9a	"	"	2515
28 000	3"	5.30	G8V					10a	rg pgm	SUM AVG ADU PART cloudy (5 pixels)	2175
24 600	3"	"	"					11a	"	"	

259 #2

Date 1991 MAY 22/23... Observers Tn / Pdr.....

Emulsion Batches:

Diffuser IN

[illegible]

Spectr. Temp.

Dome Temp./Hum. $+17.6^{\circ}\text{C}$ 72%

Transparency Conditions .. *Hazy* *260* ..

30 CGAIN

5 cm
ADU

Person Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion λ	P.H.	Program	Remarks	Quality
100s					CCD FiberFed	1800/47.2	25u	4300Å			MAX = 2500 ADU/pixel	
200s												
											mean 184.72	
											$\sigma = 22.48$	
120s						1800/46.4°	25u	4100Å				
	11 000	3'-4"	5.57	AOI _a				"		16 pgm	Some cloud	SUM AVG ADU (5 pixels) 2075
	12 250	"	"	"				"	14ci	"		SUM AVG of 5 pixels 2150
120s												
300s											MAX ADU/PIX ~ 6000	
120s												
					All cfw .fts files to Perseus & floppy						CCDT = -99.5 ^{mean}	186.92 $\sigma = 22.78$

261 pg 41

Thurs - Fri

Date 1991 MAY 23/24... Observers P.d.r./T.n... [r.G.] + four (Looked at moon)

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cf00541	Bias (4)			20 04					
cf00542	Dark 30 min			20 06					
Fm000337.Tn	HD103095	11 47 13	+38 26 10	20 22		00 16 W		Ax Int W'med	
CF00543	Comp						clear F18 IN	FeNe 120s	
CF00544	HD115735	13 13 59	+50 12 29	20 41 00	21 11 00	00 19 E			
545	Comp						clear f18 IN	FeNe 120s	
546	HD115735	13 13 59	+50 12 29	22 23 50	22 53 50	01 23 W			
547	HD135582	15 10 18	+29 32 07	22 58 35	23 30 10	00 04 W			
548	"	"	"	23 31 30	00 01 30	00 35 W			
549	Comp						clear f18 IN	FeNe 120s	
550	HD140775	15 40 26.8	+05 45 40	00 07 10	00 39 20	00 42 W			
551	"	"	"	00 40	01 10	01 13 W			
CF00552	"	"	"	01 10 30	01 40 30	01 44 W			
553	Comp								
554	HD133962	15 02 07	+48 32 14	01 46	02 16	02 59 W			

Spectr. Temp. Dome Temp./Hum. 7.23°C 55%

Focus 17.00

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions .. PART... Cloudy... Hazy..... 262

NO FILMS Tonight Dome open 1940

CCD T $\rightarrow -100^{\circ}\text{C}$ @ 1945 CGAIN=30

son Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CCD Fiber Fed	1800/46A	250u	4100A			CCD Temp set 20 mins previous Volcan = 186.19 0 = 22.20	
											400 0 10 1024 4 1 CCD FMT same as previous night	
Wind	39x39 pixels	semi OK	✓ 6.45	G8Vp			Fiber Head			No Wind	DOME WSW Hazy	
120s										(Instr Reliability Tests)		
	36,100	43"	B 5.08	B9.5Vp						= r6 pgm	Sum Avg of 5 pixels = 3400 ADU	
20s	27,950	43"	B 5.08	B9.5Vp					4ci	r6 pgm	SUM AVG of 5 pixels	3600
	25,036	3"4"	B 5.29	ALVp					5ci	"	SUM AVG of 5 pixels	3000 ADU
	1,844		"	"					6ci	"	"	2770
120s	16,900	3"	B 5.57	A0V					7ci	r6 pgm	511x5 SUM AVG of 5 pixels	2555
	17,750	2"3"	"	"					8ci	"	"	2460
		43"	"	"					9ci	"	"	
	3,151		B 5.57	A0Vp					10ci	r6 pgm	"	3425

Date 1991 MAY 23/24 Observers Pdr/Tn

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
19780	2.3"	B 5.57	AOV _a	CCD FiberFed	1800/46.4	250 μ	4100 β	11ci	RG pgn	SUM AVG of 5 pix cloud increasing	2735
15326	3"	"	"	"	"	"	"	12ci	"	then clearing again	
										mean = 185.99 $\sigma = 22.26$	
										Max ≈ 6200 ADU/pixel CCD T @ 03 33 = -100.6 $^{\circ}$ C	

265

Mon/Tues

Date 1991 MAY 27/28. Observers Fds... Pdr... Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCO 2062	Bias (4)								
2063	"								
2064	"			~20:10					
2065	Dark - 900s			20:23					
Fm000339.Tn	HD 108100	12 20.1	+43 25.0	20 30		00 10W		N ⁺ male FeA clear	4x Int
2066	Comp			20 39 10				FeA clear	30s
2067	HD 124897	14 11 06	+19 42	20 42 20	20 42 50	01 30 E			30 sec
2068	Comp			20 47			F 18 stop In for comp	FeA clear	30s
2069	Comp							"	30s
2070	HD 120315	13 43 04	+49 48 45	21 01 45	21 12 50	00 31 E			
2071	Comp			14 25				FeA clear	30s
2072 2076	Flats			21 21 06				TUNG clear	50s
(CCO 2077-78)	Comp BIAS (4) 2			21 30 -					
2079	comp						F 18 stop Diff in Now	FeA clear	30s
2080	HD 147933	16 19 35	-23 13 01	21 42 40	22 27 05	1 54 E			

Spectr. Temp.

Dome Temp./Hum. *+23°C 82%*

Transparency Conditions

Focus

510 0 80 1024 2 1

Spectr. Temp.

No Funs tonight. CGAIN=30

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CCD CLASS	$1800/43.2^\circ$	20 μ	4530A			* G = 4578	mean = 192.90 $\sigma = 7.48$
4x 30s	31x31 pixels									seeing Test	Dome west-north wind	
30s											Diffuser out	
30s	50000	OK	V 0	KO III						std vel	"	
30s											"	
30s	400 K	2"	V 1.86	B3V						Fds psm	trailed exposure	
30s											Diffuser in	
30s	10000	4"	V 5.02	B2IV							South of close pair	
											poorly resolved	

267 #2

Date 1991 May 27/28 Observers Fds - Plr - Tm

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2081	Comp								
2082	Comp								
2083	Bias (4)								
⁸⁴ 2085	BIAS (4) Dark (15)								
2086	Dark "								
2087	Dark "								
88	BIAS								
89	DARK (15")								
90	DARK "								
91	DARK "								
2092-2096	5 + flat @ 45°, $\delta = -25^\circ$								
2097	Comp						f18 Clear	FeA	30s
2098	HD 193237	20 1406	+37 4319	01 4420	02 1149				
2099	Comp						f18 Clear	FeA	30s
2100	Comp			02 17 40			n	Felt	30s

Spectr. Ter

Focus.....

Spectr. Ter

Exp. Mtr.

10000

Spectr. Temp. Dome Temp./Hum.

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					C.D. Cass	1800/43.2	250 μ	4530A				
											Clouds, some rain	
											mean	189.99 $\sigma=7.60$
											2084 mean =	189.98 $\sigma=7.60$
											CCDT @ 00 hrs = -102.3°C	
												189.66 $\sigma=7.58$
33	60000	3"	V 4-89	B1						Fels pyro		

269 #3

Date 1991 May 27/28 Observers Fds-Tm-Pdr

Emulsion Batches:

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[illegible]

Spectr. Ten

Focus

Spectr. Tem

Exp. Mtr.

40000

5006

~~5/20/06~~

Dome Temp./Hum. 20.2/87.8

Transparency Conditions *Part Cloudy* 270.

Spectr. Temp. Dome Temp./Hum. *19.49 088*

Spectr. Temp. Dome Temp./Hum. *19.49 088*

[illegible]

271 Tues-wed, ~~Fri~~

Date 1991 May 28/29 Observers Fds - Pdr

Emulsion Batches:

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..... Diffuser 17. for sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02113	Bias (4)			19 45					
2114	"								
2115	"			19 56					
2116-2125	Flat (x10)			B		0 ^h	- 25°	Turny Clear	40s
2126	BIAS (4)								
2127-2136	Flat (x10)					0 ^h	+ 45°	Turny Clear	40s
2137	BIAS (4)								
2138	Comp							FeA Clear	30s
2139	HD 124897	14 11 06	+19 42 00	20 42 50	20 46 10				
2140	Comp							FeA Clear	30s
2141	Comp								
2142	HD 120315	13 43 04	49 48 45	20 55 33	21 14 00				
2143	Comp								
2144-45	BIAS (4) (x2)								
2146-48	BIAS DARK 15m (x3)			21 26 15					
2149	BIAS (4)								

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

0 000

950

Spectr. Temp. $\sqrt{}$

Dome Temp./Hum.

Transparency Conditions

Transparency Conditions *Part cloudy → 272*
overcast

Exp.	Exp. Mtr.	Seeing	Ftg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					C&D Cass	1800 43.2	250μ	4530A		Fds	mean =	193.10 σ=7.53
40s											Diffuser IN	193.75 σ=7.52
40s												194.41 σ=7.47
30s												
60 000			0.0	KO III								
30s												
11950			1.86	B3V							Tracked exposure Clouds	2144 mean 193.29 σ=7.5 2145 mean 191.73 σ=7.18 2149 mean 190.86 σ=7.59
					All to Persens + WORM							

273

Wed-Thurs

Date 1991 May 29/30 Observers Fds-Pdr

Emulsion Batches:

NO FANS

Diffuser in for source

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE02150-52	Bias (4)			18 36					
2153-55	Dark 15m								
2156	Bias (4)								
2157-76	Flats (x20)			19:30		0h	+45°	TUNG clear	40s
2177	Bias (4)								
2178-87	Flats (x10)			20:07 50				TUNG clear	40s
2188	BIAS (4)			20:20:00					
2189	Comp			20 28 57				FeA clear	30s
2190	HD124897	14 11 06	19 42 30	20 37 00	20 38 12	1 26 E			
2191	Comp			20 39 16				" "	"
2192	Comp							" "	"
2193	HD120315	13 43 04	49 48 45	20 46 29	21 07 37				
2194	Comp			21 08 40				" "	"
FM000340	HD113811	13 01 12	+40 08	21 20		20 30 W		" mode	4x Int
2195	Comp							FeA Clear	30s

Spectr: Temp. /

Dome Temp./Hum.

Dome Temp./Hum. 22.6 / 76.5

Transparency Conditions *Haze* 274

Few clouds

[illegible]

275 #2

Date 1991 May 29/30 Observers Fds - Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02196	HD120315	13 43 04	49 48 45	21 33 00	21 51 56				
2197	Comp							F ₄₅	30 ^s
2198	Comp				21 59 32			"	"
2199	HD 147933	16 19 35	-23 13 01	22 01 50	22 01 50 22 48 20	1 24 E		F ₄₅	
2200	Comp			22 50 41				Clear	30 ^s
2201	BIAS (4)								
2202	BIAS (4)								
2203-2204	DARK 15" (x2)								
2205	COMP			23 46 12				F ₄₅ Clear	30 ^s
2206	HD 148605	16 24 8	-24 53 42	23 48 30	00 05 24				
2207	COMP			00 07 08				"	"
2208	Comp							"	"
2209	HD 193237	20 14 06	37 43 19	00 35 58	0 58 14	03 07 E			
2210	Comp			01 01 03				"	"
2211-2212	Bias (4)								

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

10 725

900

735

Spectr. Temp. Dome Temp./Hum. 21.9/78.0 Transparency Conditions Part cloudy 276

Focus

Spectr. Temp. Dome Temp./Hum. 20.6/87.2

Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	2"	1.86	B3V	CCD <u>Loss</u>	1800/43.2	250 μ	4530A			Trailed exposure	
30 ^s											
"											
10 725		5.02	B2IV							South of pair resolved in finder not resolved on screen Clouds	
30 ^s										mean = 110.73 σ = 7.60	
										190.74 σ = 7.59	
30 ^s											
900		4.79	B2V								
"											
"											
8735		4.89	B1V						P Cygni.		
"										2211 mean = 189.54 σ = 7.60	
										2212 mean = 189.53 σ = 7.59	

All to Persen + WORT

27

Thurs - Fri

Emulsion Batches:

Date 1991 MAY 30/31... Observers Fds... Pdr... Th...

FANS ON

Diffuser IN for sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02213 - 02215	BIAS(x4) 3			18 15 18	18 17 14				
CC02216- - 02218	DARK 3								15 min
CC02219.FHS	BIAS(4)			19 05 52					
CC02220- 2229	FLATS			19 08 10		0 0	+45°	TUNG CLEAR	40s
CC02230	BIAS(4)			19 21 16					
CC02231- - 02240	FLATS					0 0	+25°	TUNG CLEAR	40s
CC02241	BIAS(4)								
CC02242 - 2243	DARKS 2			19 46 40 20 02 58					15 min
2244	Comp							FeA CLEAR	30s
2245	HD 124897	14 11 06	19 42 30	20 34 38	20 37 55	01 22 E			
2246	Comp							FeA CLEAR	30s
2247	Comp							n	n
2248	HD 120315	13 43 04	+49 48 45	20 46 15	20 58 16	0 33 E			
2249	Comp								
Fmoo 341.Th	HD 113811	13 01 12	+40 08	21 08		00 20 W	"N" mode	4x Int	

Spectr. Temp. Dome Temp./Hum. $+24^{\circ}$ 76% Transparency Conditions *Hazy* 278.

Focus

FARS ON BY 18 EST

Spectr. Temp. Dome Temp./Hum.

30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	1800/43.2	250 μ	4530A		<i>510 0</i>	80 1024 2 1 CCD FRT	
										2213 mean	195.11 $\sigma = 7.40$
										2214 mean	195.09 $\sigma = 7.42$
<i>40s</i>	<i>no darker</i>									2215 mean	195.10 $\sigma = 7.42$
										2219 mean	194.26 $\sigma = 7.42$
<i>40s</i>	<i>no darker</i>									2230 mean	194.53 $\sigma = 7.40$
										2241 mean	193.96 $\sigma = 7.45$
										CCD T = -108.9° C	
<i>310,000</i>		$\checkmark$ 1.0	KOM						<i>std vel</i>	Trailed exposure	
<i>400 000</i>	<i>2"</i>	$\checkmark$ 1.86	B3V								
<i>31x31 pxd</i>		$\checkmark$ 7.53	K15 III	4 frames		250 μ Head			<i>Light SW Breeze</i>	<i>Seeing test Dome West</i>	

579

#2

Date 1991 May 30/31

Observers

Fds - Pdr - Tm

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02250	Comp			21 11 30				FeA Clear	30sec
2251	HD 1203 15	13 43 04	+49 48 45	21 13 43	21 28 19	0 03 E			
2252	Comp							FeA Clear	30sec
2253	Comp							"	"
2254	HD 1932 37	20 14 06	+37 43 19	21 59 02	22 55 15	05 07 E			
2255	Comp			22 56 30				FeA Clear	30s
2256	Comp			23 01 24				"	30s
2257	HD 1203 15	13 43 04	+49 48 45	23 03 22	23 20 52	01 49 W			
2258	Comp							FeA Clear	30s
CC02259 02260	BIAS (4) 3								
2262	Comp			00 39 52				FeA Clear	30s
2263	HD 1849 15	19 31 30	-7 15	00 41 41	01 44 14	1 36 E			
2264	Comp				01 45 23			"	"
2265	HD 1849 15	"	"	01 46 46	02 37	0 42 E			
2266	Comp			02 38 20				FeA Clear	30s
2267-2269	Bias (4) x3			02 39 30 02 43 55 02 44 36					

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

45000

19,520

965

CC001

20603

81 pg #1

Fri Sat

Date ... May 31 / June 1 Observers ... Fels / T.A.

Emulsion Batches:

note... P. Fraser in f.p.p. sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02270- CC02272	BIAS(4) 3			18 44 00	18 45 44				
CC02273- 2275	DARKS 3								15min
CC02276 2277	BIAS(4) 2			19 33 23	19 34 20				
CC02278- 2287	FLATS 10			19 36 18			+45°	TUNG CLEAR	
CC02288- 2289	BIAS(4) 2			19 51 30 20 16 30	20 16 30				
CC02290	Comp			20 36				FeA CLEAR	30s
2291	HD 124897	14 11 06	+19 42 30	20 42 47	20 46 41	01 08 E			
2292	Comp			47 44				FeA CLEAR	30s
2294	HD 120315	13 43 04	+49 48 45	20 55 19	21 09 36	00 19 E		CC02293 CC02295 FeA CLEAR	30s 30s
FM000342 2297	HD 120245	13 43 11	+38 23 33	21 17		00 12 E		CC02296 CC02298 FeA CLEAR	30s 30s
2299	"	"	"	21 59 46	22 16 22	00 48 W		CC02296 CC02298 FeA CLEAR	30s 30s
2302	HD 148605	16 24 07	-24 53 42	22 30 08	22 52 40	01 16 E		CC02300 CC02301 CC02303 FeA	30s
2304	BIAS(4)			22 57					
CC02305 2314	FLATS (10)					01 09 E	-25°	TUNG CLEAR	30s

283

pg #2

Date 1991 MAY 31/Jun 1 Observers Fds-Tu

Emulsion Batches:

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[illegible]

SAT-SUN

1 Large Jar (looked at whirlpool Gal) Emulsion Batches:
 2 hrs

Date 1991 JUNE 1/2 Observers Fds-Tn

Emulsion Batches:

2 hrs

Diffuser in

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02319- 2321	BIAS(4)			19 09 30	19 10 00				
CC02322 - 2324	DARKS 3								15min
CC02325	BIAS(4)			20 07 50					
CC02326 - 2328	DARKS 3								15min
CC02329	BIAS(4)			22 35 00					
CC02331	HD148605	16 24 08	-24 53 42	22 37 55	23 26 44	E	CC02330 CC02332	FeA CLEAR	30sec
CC02333	HD148605	"	"	23 28 35	00 17 11	W	CC02334	"	30sec
2335	HD148605	"	"	00 19 12	00 53 04	00 47 W	CC02336	"	30sec
2338	HD193237	20 14 06	37 43 19	01 01 29	01 33 18	02 21 E	CC02337 CC02339	"	30sec
2340	BIAS(4)								
CC02341- 2350	FLATS 10					0 0	-25°	TUNG CLEAR	30sec
2351	BIAS(4)			01 51					
CC02352 - 2361	FLATS 10					0 10 W	+45°	TUNG CLEAR	30sec
CC02362	BIAS(4)			02 03 30					

Spectr. Temp. Dome Temp./Hum. $+18.5^{\circ}\text{C}$ 55% Transparency Conditions *FINE* 286

Focus

Spectr. Temp. Dome Temp./Hum. $+16.0^{\circ}\text{C}$ 60%

- clouding in
note - They should have been off.
FANS on again after TOUR

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD	1800/43.2	250 μ	4530A			No scaling test done anyway	2319 mean 190.17 $\sigma = 7.54$
				CASS		*				* 2nd longest slit used	2320 mean 190.09 $\sigma = 7.55$
											2321 mean 190.14 $\sigma = 7.55$
											2325 mean 188.08 $\sigma = 7.67$
										CCD T = -101.0 $^{\circ}\text{C}$	2329 mean 183.54 $\sigma = 7.57$
30sec	40000	4"	4.79	B2V		250 μ			Fds-pgm		
30sec	40000	4-6"	"	"		*			"		
30sec	20000	"	"	"					"	Some cloud (cloud attend)	
30sec	3000	3+	4.89	B1p					P Cygni	transit holes in cloud	mean = 184.02 $\sigma = 7.95$
30sec	(no decker)									CCD T = -102.0 $^{\circ}\text{C}$	
											mean = 183.27 $\sigma = 7.89$
30sec	no decker										
					ALL NFS to Perseus / CASS					1st 12 or so are missing obs - none	182.83 $\sigma = 7.93$
					+ Wormed To 91-06					in headers.	

287 pg #1

sun-mon

Date 1991 JUN 2/3... Observers Fds - T...

Emulsion Batches:

.....

..... Diffuser in for source

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02363	BIAS(4) 3			17 40 00					
- 2365									
2366	DARKS 3								
- 2368									
CC02369	BIAS(4)			18 50 36					
CC02370	FLATS			18 52 47			+45°	TUNG CLEAR	30s
- 2379									
2380	BIAS(4)								
CC02381	FLATS			19 07 20			0°	TUNG CLEAR	30s
2390									
CC02391	BIAS(4)								
CC02392	FLATS						-25°	TUNG CLEAR	30s
2401									
CC02402	BIAS(4)			19 40 00					
CC02404	HD 124 897	14 11 06	+19 42 30	20 35 19	20 37 48	01 11 E	CC02403 CC02405 CC02406 CC02408	FeA CLEAR "n" "n"	30s
2407	HD 120 315	13 43 04	+49 48 45	20 45 14					
FM ⁰⁰ 3447	HD 120 245	13 43 11	+38 23 33		21 00	00 20 E		Int x 0	"N" mole
CC02410	HD 148 605	16 24 08	-24 53 42	21 26 37	22 16 37	01 40 E	CC02409 CC02411	FeA CLEAR	30s
CC02412	"	"	"	22 19 09	23 01 00	01 02 E	CC02413	"	"
2414	"	"	"	23 03 00	23 43 47	00 19 E	CC02415	"	"

Spectr. Tem

Focus...

Spectr. Tem

Exp. Mir.

no deke

no deke

no deke

374 000

540 000

3 x 31 1/2

22 000

31 800

51 800

30 CGAIN / 510 0 80 1024 2 1 CCDFMT

[illegible]

#2

Sun - Mon

Date 1991 June 2/3... Observers Fds - Tn.....

Emulsion Batches:

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.....

.....

[illegible]

291

pg #1

mon - Tues

Date 1991 JUNE 3/4... Observers T. / T. [K.H.]....

Emulsion Batches:

..... FOR TUNG & Comps

..... DIFFUSER OUT

..... F18.5 top IN

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF00560	fts BIAS (4)								
561	fts Comp							FeNe Clear	120sec
CF00562								TUNG Clear	155sec
CF00563	FLATS (2)								
CF00564	HD 112956	12 55.2	+69 19	22 05 30	22 58 30	02 31 W			
565	Comp							FeNe Clear	120sec
566	HD 122742	13 58.6	+11 16	23 04 20	23 47 40	02 15 W			
567	Comp							FeNe Clear	120sec
568	HD 144287	16 00.0	+25 30	23 53 00	00 39	01 06 W			
569	Comp			23 53 00				FeNe Clear	120sec
570	HD 158633	17 25.3	+67 24	00 45	01 15	00 20 W			
571	Comp							FeNe Clear	120s
572	Bias (4)								
573	HD 140538	15 39.1	+02 50	01 22 45	01 45 15	02 33 W			
574	Comp							FeNe Clear	120s
575	Bias (4)								

pg #2

Emulsion Batches:

[illegible]

[illegible]

295

pg #1

Tues - wed

Date 1991 JUN 4/5..... Observers Kt... Tt... Tn.....

Emulsion Batches:

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.....

F.I.S. Step. IN. & DIFF OUT

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SBIG TESTS	2 CVn	1991.5 12 55.6	1991.5 +38 22						
CF00598A15	BIAS (4)			2 00 20					
599	Comp							Felle clear	60sec
600	HD 122742	13 58.36	+11 16.00	00 23	00 45 56	03 17 W			
601	"	"	"	00 47	01 11 45	03 43 W			
602	"	"	"	01 12 30	01 39 50	04 11 W			
CF00603	Comp							FeNe clear	50s
Fmax 346	HD 171232	18 28.5	+25 25	01 47		00 10 E		4xInt	N mole
CF00604	"	"	"	01 48	02 17 35	00 20 W			
605	"	"	"	02 18	02 49	00 52 W			
606	Comp							FeNe clear	50s
607	FLATS 2							Tung clear	8sec
608									
609	HD 8890 B	01 22.6	+88 46	02 59	03 22	06 33 E			
610	"	"	"	03 22	03 48	06 07 E			
611	Comp							FeNe clear	50s

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mtr.

5002

5003

5000

3130

3100

5400

575

590

Spectr. Temp. Dome Temp./Hum. ... +17°C ... 55% Transparency Conditions . P.H.R.T. Cloudy ... 296

Focus

FANSON

Rain at times

Spectr. Temp. Dome Temp./Hum. ... +13°C ... 70%

CCD T $\rightarrow$ -100 @ 20:10 Nice Aurora Late

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		✓ 5.60	FOV	SBIG CAMERA CCD FiberFed						width of view 25" Sep 20" double star	131.46 σ = 50.30
					1800/52.7	250μ	5120Å			Note: binning for single column $\Rightarrow$ 355 x nominal control angle very strong	
5003	5"	B 6.8	G8V						A sm Sp KK	4200 ADU Sum AUG 1 col	
5003	4-6'	"	"								
5000	"	"	"							4413 ADU Sum AUG 1 col.	
31x3/pix	4"	✓ 7.73	G8III	4 Frames CCD FiberFed	1800	Fiber 170μ	5120Å		Seeing test	N winds 17 km/hr SW Dome fixing	
3100	4"	"	"						std vel	2429 ADU Sum AUG	
2800		"	"						"		
575		✓ 7.8?	F						A sm sp KK	601 ADU Sum AUG	
590		"	"								

Date 1991. JUNE 4/5. Observers T.H./T.Ty.

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.....

[illegible]

Transparency Conditions .. Clear 298

Spectr. Temp.

Dome Temp./Hum.

[illegible]

299 pg #1 Wed-Thurs

Date 1991 JUN 5/6. Observers T.Ty. - T.n... K.K. (S.BIG Tests)

Emulsion Batches:

F18 Stop IN } for sources
Diffuser OUT }

[illegible]

Transparency Conditions *Clearing* *300*

90 CGH in

Dome Temp./Hum.

355 0 7 1024 20 1 CDFMT

Nice AURORA AGAIN

[illegible]

301 pg #2

Emulsion Batches:

Date 1991 JUNE 5/6... Observers Tn /Tty.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF00648	HD 158633	17 25.3	+67 24	00 09 30	00 14	00 32E			
649	"	"	"	00 18 30	00 23	00 24E			
650	"	"	"	00 23 45	00 28	00 18E			
651	BIAS(4)							Felt Clear	30s
652	Comp							Felt	30s
653	HD 8890 B	01 22.6	+88 46	00 38 15	01 05 00	8 45E			
654	"	"	"	01 05 30	01 32 30	-8 18E			
655	"	"	"	01 33 00	01 50 30	08 00E			
656	Comp							Felt	30s
657	BIAS(4)							Felt	30s
Fm000347.Tn	HD 176844	18 57 03	+40 32 36	02 01		00 19E	Forgot	4x Int	(10 Int)
Fm000348.Tn	"			02 05		00 15E		4x Int	
658	HD 173740	18 41.8	+59 29	02 15 00	02 36	00 31 W	CF00659 Comp	Felt Clear	30s
CF00660 - 669	FLATS (10)							Tung Clear	7sec
CF00670	HD 173740	18 41.8	+59 29	02 55	03 15	01 12 W			

Spectr. Ten

Focus....

Spectr. Ten

Exp. Mtr.

1600

690

1700

30s

912

87

0

31.3

7x3

374

580

Spectr. Temp. Dome Temp./Hum. $+15^{\circ}\text{C}$ 75% Transparency Conditions Fine 302

Focus

Spectr. Temp. Dome Temp./Hum. $+13.6^{\circ}\text{C}$ 69.5%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1600	4"	7.09	dK1 RG9V	ced Fiber RL	1800/53.8	250 μ	5120 $\text{\AA}$		Asm Sp - KK	some cloud	
1690										1431 SUM AVG ADU	
1700											
3020										mean = 134.84	
303										$\sigma = 50.28$	
992	3"	7.8	F						Asm Sp - KK	1017 SUM AVG ADU	
887		"	"						"	926 " " "	
660		"	"						"	clouds interrupted	
											131.94
											$\sigma = 50.03$
31x31 pixels		6.65	M2 III	N mode		Fiber Head			Seeing Test	Dome W Light N wind	
31x31				N mode.		"			" "	" "	
374	3"	9.69	dm5			250 μ	SOUTH and fainter of pair		Asm Sp - KK	303 SUM AVG ADU Cloud again	
580	4.3"	9.69	dm5							372 ADU AVG 1col	

403 pg #3

pg #3

Date 1991 JUNE 5/6... Observers J. Jy - T. Jy.....

Emulsion Batches:

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[illegible]

Transparency Conditions 304

Spectr. Temp.

Dome Temp./Hum. *+13.7°C* *69%*

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30s 15 min	598	L3*			^{ccn} Fidertel	1800/53.8	250	5120A			Some cloud	
											Baked up to floppy e worm.	

205

pg #1

Date ... 1.9.91 ... JUNE 6/7 Observers T.G. / Pdr. [r.G. & Trudel]

Emulsion Batches:

..... Diff Out for Comps
..... F.E. Stop IN

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02434.FTS	BIHS (4)								
Fm ⁰⁰⁰ 349.T _n	HD120245	13 43 11	+38 23 33	20 50		00 14 E		"N" mole	0 Int
350.T _n	"			20 54		00 10 E		"N" mole	4 x T _n
CC02435	Comp							FeNe Clear	10 sec
CC02436	HD 98839	11 17.2	+44 02	21 15 30	21 35 30	2 56 W			
2437	Comp							FeNe Clear	10 sec
2438	HD 98839	11 17.2	+44 02	21 41	22 11	3 31 W	2439.FTS	FeNe Clear	10 sec
2441	HD 125351	14 13.8	+35 58	22 17 35	22 40	1 06 W	2440.FTS	"	"
2443	HD 125351	"	"	22 42 40	23 06 40	1 32 W	2442.FTS 2444.FTS	"	10 sec
2446	HD 129972	14 40.3	+17 23	23 12 30	23 37	1 35 W	2445.FTS 2447	"	"
2448	"	"	"	23 39	00 05	2 04 W	2449	"	"
2450	Bias (4)								
2451	Comp							FeNe Clear	10 sec
2452	HD 1311.56	14 46.8	+19 31	00 12 20	00 39 10	2 31 W	2453.FTS	"	"
2454	"	"	"	00 43	01 17	3 08 W			
2455	Comp							"	"

Spectr. Temp. Dome Temp./Hum. $+18.5^{\circ}\text{C}$ 57% Transparency Conditions *FINE* v.s/haze 366

Focus

format: 550 0 40 1024 2 1

Spectr. Temp. Dome Temp./Hum.

30 again

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CCD						FALSON & Donegan	205ST
					CHSS						CCD T -100.2°C	mean 184.62 $\sigma = 10.94$
0.1	3" x 3/pixel		V 6.95	KOIII			250u Hand			seeing test	Rob forgot to set Int = 4x gain	
0.1	"					(slit Length 2nd/longest)				DOME VLSW, no wind		
10						1800/41.8	* 250u	4315 Å			* G-4425	
	71500	2"	B 6.00	G8II					2ci	rG pgm	SUM AVG ADU = 12800 (over 10 pixels)	
10												
10	120180		" "						3ci	rG pgm	SUM AVG ADU = 21650	
"	111600	2"	5.85	KOIII					4ci	rG pgm		
12	11400								5ci		SUM AVG ADU = 19720	
"	13000		4.60	G8.5III					6ci	rG pgm	SUM AVG ADU = 22050	
"	17000								7ci		" " = 22420	
											180 ADU/pixel	15254 $\sigma = 11.02$
10											Some Thin Cloud	
"	20100	2"	4.54	G8V					8ci		" " = 22300	
	20,000								9ci			
"						not written						

307 pg 42

Emulsion Batches:

Date 1991 JUNE 6/7.... Observers Pdr - Tr.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02455	Flts Comp							FeNe Clear	10sec
2456	HD EG Ser	18 25.4	-01 41	01 28 30	02 02	00 19 W			
2457	Comp							FeNe Clear	10sec
2458	EG Ser	18 25.4	-01 41	02 03 30	02 43 30	1 02 W			
2459	Comp							FeNe Clear	10 sec
2460	Bias (4)								
2461	Comp							FeNe Clear	10s
2462	HD 182572	19 20.2	+11 44	02 50 20	02 55 30	0 14 W	11 54		
2463	Comp							FeNe Clear	10s
2464	Flat					0 23 W	+11 54	Tung Clear	40s
2465	Flat							"	60s
2466-2469	Flat (x4)							"	50s
CC02470	DARK			03 18					20min
2471	PARK			03 42					20min

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions S1. hazy - cloudy....

Focus

Spectr. Temp.

Dome Temp./Hum. +15.5°... 60%

308

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	1800/41.8	250 μ	43P5A				
4020	3"	✓ 8.22 -8.93	B-V 0.22	CCD CHSS				10ci	Trade/pym	2,800 SUM AVG ADU F.R 10 ccds	
4160		✓ 8.22 -8.93						11ci	"	thin cloud again	$T_{CCD} = -101.2$
											mean = 192.71 $\sigma = 11.02$
13000	2.3"	6.0	K					12ci	stlvel		
Diffuser IN For Flats						250 μ slit Length Longest for Flats		14ci 15ci 16ci-19ci			
											$T_{CCD} = -101.2$
											All to workn by DOS services and NFS to persons (out of Des & view)

209

Fri/Sat

Date 1991 June 7/8 Observers Lu./Pdr

Emulsion Batches:

FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
FM000351.Pdr	HD120245	13 43 11	38 23 33	21 '08			1N' mode	4xInt	
FM000352.Pdr	"								
α02472	Bias (4)			21 15 30					
2473	Comp			21 20				Fet Clear	60s
2474	HD114762	13 07.5	18 02	21 31 05	21 41 35	1 16 W			
2475	Comp							"	"
2476	Comp							"	"
2477	1E1654+35	16 52 11	35 20 27	22 11 30	22 31 30	1 37 E			
2478	Comp							Fet Clear	60s
2479	1E1654+35	"	"	22 42	23 02	1 06 E			
2480	Comp							Fet Clear	60s
2481	- bias (4)								
2482	1E1654+35	"	"	23 10 10	23 30 35	0 38 E			
2483	Comp							Fet Clear	60s
2484	1E1654+35	"	"	23 37	23 57	0 11 E			

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions Clear 3/0

550 0 40 1024 21
30 gain ccd fnt

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Cass	1800 / 461	250μ	5010Å			G = 4900	
		2"			Dome pointing SW			no wind				
											mean = 186.36 σ = 10.90	
60s			V = 7.31	↓ F7								
	674		↓	↓					3ci		SUM AVG ADU = 3970	
"												
"												
	435		V = 10.1	G2					4ci		SUM AVG ADU = 2084	
60s												
	540		"	"					5ci		SUM AVG ADU = 2130	
60s												
											mean = 185.51 σ = 10.55	
	578	3"			Tccd = -100.6 °C				6ci			
60s												
	410								7ci			

311

#2

34

Date 1991 June 7/8

Observers

Lu/Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2485	Comp							FeA clear	60s
2486	1E1654+35	16 52 11	35 20 27	00 02 40	00 22 40	00 12 W			
2487	comp							"	"
2488	1E1654+35	"	"	00 27 10	00 47 10	00 37 W.			
2489	comp							"	"
2490	1E1654+35	"	"	00 52 05	01 12 05	01 03 W			
2491	Comp							"	"
2492	bias (4)								
2493	Comp								
2494	HD140913	15 41.1	+28 47	01 25 40	01 35 40	02 38 W			
2495	Comp							FeA clear	60s
2496	Comp							"	"
2497	1E1654+35	16 52 11	35 20 27	01 49 05	02 09 05	02 01 W			
2498	comp								
2499	1E1654+35	"	"	02 13 00	02 33 00	02 25 W			

Spectr. Temp. Dome Temp./Hum. 16.2/57.6 Transparency Conditions Few Clouds 3/2

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s				CCD Cass	1800 1800/	250 μ	5010A	8 ci			
362		V=10.1	G2					9 ci		high clouds	
"								10 ci			
369		"	"					11 ci		SUM AVG ADU = 1990	
"											
293	3.5"	"	"					12 ci			
"											
										mean	182.45
										$\sigma=11.02$	
1420		8.21 ↓	601 ↓					13 ci ↓			
60s											
421								14 ci			
375								16 ci			

313

Date 1991 June 7/8 Observers Lu/Pdr

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

314

[illegible]

315 Sat/Sun

Date 1991 June 8/9 Observers Lu/Pdr

Emulsion Batches:

FANS ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM000353	M13								
2508	bias (4)								
2509	Comp			22 52				FeA clear	60s
2510	HD140913	15 41.1	+28 47	22 55 20	23 05 20	0 11 W			
2511	Comp								
FM000354	HD144579	16 01 30	39 25 36			~0h		IN mode	Int x4
Pdr 2512	Comp							FeA clear	60s
2513	1E1654+35	16 52 11	35 20 27	23 24 45	23 44 45	0 20 E			
2514	Comp							"	"
2515	1E1654+35	"	"	23 49 26	00 09 26	0 04 W			
2516	Comp							"	"
2517	1E1654+35	"	"	← 00 14 15	00 34 15	0 30 W			
2518	Comp							"	"
2519	Bias (4)								
2520	1E1654+35	"	"	00 40	01 00				
2521	Comp								

Spectr. Temp. Dome Temp./Hum. 19.0/58.4 Transparency Conditions Clear 316
 Focus
 Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CCD Cass	1800/46.1	250μ	G=4900 5010A				
60s	1180	3"	8.24	G0V					2ci			
Exp x4 60s	31x31 pix	V= 6.66	G8V								Dome pointing w/ no wind	
"	354	V= 10.1	G2						3ci		SUM AVG ADU = 2020	
"	412								4ci			
"	441								5ci			
"	447								6ci			

#2

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
C02522	1E1654+35	16 52 11	35 20 27	01 03 42	01 23 42	01 19 W		F&A clear	60s
2523	Comp							"	"
2524	1E1654+35	"	"	01 27 40	01 47 80	01 43 W		"	"
2525	Comp							"	"
2526	1E1654+35	"	"	01 51 47	02 02 47			"	"
2527	Comp							"	"
2528	H Comp							"	"
2529	H) 187691	19 46.2	+10 10	02 21 10	02 23 10	0 36 E		Tung clear	5s
2530-2531	Flat (x2)			02 32				"	10s
2532-2534	Flat (x3)								
2535	Bias (4)								

All to Perseus + WORM

Spectr. Temp. Dome Temp./Hum. 17.0/63.0 Transparency Conditions Clear 318...

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
454	4.0"	10.1	62	CCD Cass	1800/46.1	250	5010A	7ci			
								8ci			
425								9ci			
421								10a			
3059		5.1	F8V					11a		Tccd = -101.7	
								12-13		MAX ADU ~ 6800	
								14-16		MAX ADU ~ 13250	
										mean = 182.13	
										$\sigma = 11.03$	

319 Sun/Mo

Date 1991 June 9/10

Observers /Par

Emulsion Batches:

FANS OFF

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM000355. Pdr	HD 120245	13 43 11	38 23 33	20 50		0 05 W		'N' Male Int x 4	
CC02536	Bias (4)			21 05					
2537	Comp			21 14				FeA Clear	60s
2538	HD 122693	14 02 29	24 36 09	21 16 34	21 22 17	W			
2539	Comp			21 23				n	"
2540	Comp							"	"
2541	1E1654+35	16 52 11	35 20 27	21 30 00	21 50 00	2 11 E			
2542	Comp							"	"
2543	Bias (4)								
2544	1E1654+35	"	"	22 00	22 20	1 41 E			
2545	Comp							"	"
2546	1E1654+35	"	"	22 30	22 50	1 11 E			
2547	Comp								
2548	1E1654+35			23 00	23 20	0 41 E			
2549	Comp								

Spectr. Temp. Dome Temp./Hum. 20.5/45.7

Transparency Conditions ... Few Clouds ... 320

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V= 6.95	K0III	CCD Caos	1800/46.1	250	5010A G=4900			Dome pointing WSW no wind	mean = 188.35 $\sigma = 10.65$
										Top up @ 20:15	
1000		V= 8.21	F8V					2 ci	AVG SUM AVG ADU =	$T_{\text{ccd}} = +1.5$ 2492 (10 pixels)	
								3 ci			
								4 ci			
374		V= 10.1	G2					3 ci		$T_{\text{ccd}} = -100.5$ SUM AVG ADU = 2087	mean = 188.63 $\sigma = 10.66$
498								4 ci			
266								5 ci		clouds	
524	2"							6 ci			

32/ Sun/ Mo

Date 1991 June 9/10 Observers 1 Per

Emulsion Batches:

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[illegible]

All to WORM & Persing

Focus

Spectr. Temp. Dome Temp./Hum.

son Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CD Cass	1800/46.1	250 μ	5010A			$T_{CD} = 101.7$	mean = 187.76 $\sigma = 10.67$
50s	5016		V = 5.0		G5III						did Brighter southern star of pair	
5s								8-9 ci			MAX ADU = 6700	
0s								10-12 ci			" " = 12800	
								13 ci			$T_{CD} = -101.7$	
								14 ci				

[illegible]

325

Wed-Thurs

Date 1991 JUNE 12/13 Observers ... Pdr./Tn.....

Emulsion Batches:

..... F18 Stop IN. } for
 Diffuser IN. } sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Fm 357.8R	HD120245	13 43 11	+38 23 33	20 38		0 0	4xInt	W mode	
CC02569	BIAS (4)								
2570	Comp							Fene Clear	60s
2571	HD 115735	13 13 59	+50 12 29	21 06 15	21 46 55	01 35 W			
2572	Comp							Fene Clear	60s
2573	HD 115735	13 13 59	+50 12 29	21 50 55	22 27 30	02 16 W			
2574	Comp							Fene Clear	60s
CC02576	HD133962	15 02 07	+48 32 14	22 36 15	23 00	01 01 W	CC02575	Fene Clear	60s 60s
2577	Comp (after Power Failure.)							Fene Clear	60
2578	HD133962	15 02 07	+48 32 14	23 17 20	00 02	02 03 W			
2579	Comp							Fene Clear	60s
2580	BIAS (4)								
2581	HD133962	15 02 07	+48 32 14	00 04 50	00 43	02 44 W			
2582	Comp							Fene Clear	60s
2583	Comp							n	n

Spectr. Temp. +14°C Done... Dome Temp./Hum. +14°C 56%

Transparency Conditions .. Fine 326....

Focus . changed from .6.70 -> .6.85

AURORA VERY NICE AFTER 23 EST

Spectr. Temp. Dome Temp./Hum.
(Slit Length 2nd longest)

FANS ON & Dome open before 20 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
39x39	poor	V 6.95	H0111	CCD CASS	1800/46.5*	DSAR Slit+Head	4100A		Seeing Test	G-4290 DOME SW med NNN wind	mean = 177.99 $\sigma = 11.43$
									CGAIN = 30	[550 0 40 1024 2 1 CCD FMT]	
63,200	5"	B 5.08	B9.5 up						rg pgm	SUM AVG ADU = 20440 (over 20 pixels)	
63670	6"	B 5.08	B9.5 up					4ci	rg pgm	(over 20 pixels) SUM AVG ADU = 21,360	
		B 5.57	AOV _a	(only CCD 2575 Comp Relevant to exp)				5ci	rg pgm	Power Failure at ~ 23 EST for 2 mins	
				SUM AVG ADU = 9880				7ci	rg pgm	Power failure	
43000	4"10"	B 5.57	AOV _a	we noticed that a slight (?) change occurred relative to before						SUM AVG = 19660 ADU	
										CCD T = -101.7°C over 20 cols	174.69 $\sigma = 11.68$
39000	4"8"	B 5.57	AOV _a					8ci	rg pgm	SUM AVG ADU = 13520	

377

pg 2

Date 1991 JUNE 12/13.. Observers Pdr Th.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02584	HD 135502	15 10 18	+29 32 07	00 50 40	01 17 00	3 10 W			
2585	Comp							Feko Clear	60s
2586	HD 135502	" "	" "	01 20 40	01 46 40	3 40 W			
2587	Comp							Feko Clear	60s
2588	Comp							"	60s
2589	EG Ser	18 25 24	-01 41 00	01 58 08	02 40	01 21 W			
2590	Comp							Feko Clear	60s
2591	EG Ser	18 25 24	-01 41 00	02 43 20	03 21 25	02 03 W			
2592	Comp							Feko Clear	60s
2593	Comp							"	60s
2594	HD 182572	19 20 2	+11 44	03 27	03 33	01 16 W			
2595	Comp							Feko Clear	
2596	BIAS (4)								
2597-2601	FLATS (x5)					01 20 W	+11 44	Tung Clear	60s
CC02602	DARK			03 51					1200s

Spectr. Temp. Dome Temp./Hum. +11°C 72% Transparency Conditions ... Fine 328

Focus

Spectr. Temp. Dome Temp./Hum. +7.7°C 79%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
38500	4"	B 5.29	A1V ₉	CCD CHSS	1800/40.5	25μ	4100A	9ci	r6 pgm	* SUM AVG ADU =	
39100	4"	B 5.29	A1V ₉					10ci	r6 pgm	CCDT = -101.8°C	
3430	6"	V 8.22 -8.93	B-V +0.22					11ci	Trudol pgm	for 10 cols Sum AVG ADU = 3360	
3000											
6870	6"	B 5.94	G8IV						Std vel		
										mean =	172.96
										σ = 11.90	
								14-18		MAX ADU = 8400	
All to Perseus & WORM										CCDT = -101.9°C	

329

pg #1

Thurs - Fri

Date 1.9.91 JUNE 13/14. Observers Pdr - Tn... [r.G.] service obs

Emulsion Batches:

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 F18 stop 17.7. FAR sources
 Diffuser IN. }

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02603	DARK			20 26 50					
FM000358 Pdr	HD120245	13 43 11	+38 23 33	20 48		00 10W		'N' mode	4x Int
CC02604	Bias (4)								
2605	Comp							FeNe CLEAR	60 sec
2606	HD133962	15 02 07	+40 32 14	21 11	21 44	00 11E	CC02607	FeNe CLEAR	60 sec
2608	"	"	"	21 47	22 27	00 27W	CC02604 CC02610 CC02612	"	"
2609	Comp (CC02610 for comp)							"	"
2610	HD140775	15 40 27	+05 45 40	22 30 10	23 10	00 35W			
2612	Comp							FeNe CLEAR	60 sec
2613	HD140775	15 40 27	+05 45 40	23 13 36	23 54	01 19 W			
2614	Comp							FeNe CLEAR	60 sec
2615	Comp								
2616	HD135502	15 10 18	29 32 07	00 02 05	00 32 05	02 28W			
2617	Comp							-4	11
2618	-Bias (4)								

Spectr. Temp. Dome Temp./Hum. $+16^{\circ}\text{C}$ 48%

Transparency Conditions ... Thin... cloud 330

Focus 6.85

Spectr. Temp. Dome Temp./Hum.

NO FANS, Dome open 20 EST
CCD T $\downarrow$ -100 @ 20 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	1800/40.5	25 μ	4/100			CCD T = -100.4 at start	
31 x 3/pix	Five	6.95	KO III			250 μ Hard	(Image below slit best) Mod. Ker		Seeing test	Dome SW, no wind mean = 180.59 σ = 11.20	
						25 μ (2nd longest slit length)			λ Range exactly 4000 $\rightarrow$ 4200 Å		
63300	3"	B 5.57	AOV _a					5ci	r G pyrm	For 10 cols Sum Avg ADU 220,000	
62600	2.3"	"	"					6ci	"		
46000	3.4"	B 5.57	AOV					7	r G pyrm		
39000	4"	B 5.57	AOV					8	r G pyrm	CCD T = -100.4°C	
52690		B 5.29	A1Z _a					9	r G pyrm	For 20 cols Sum Avg ADU 18,880	
										mean = 178.26 σ = 11.40	

331

pg 2

Date 1991 JUNE 13/14.. Observers T. P. R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02619	HD135502	15 10 18	+29 32 07	00 37 10	01 08 20	03 05 W			
2620	Comp							FeNe Clear	60s
FM000359.Tg	HD171232	18 28.5	+25 25	01 20		00 01 E			
CC02621	Comp							FeNe Clear	60s
2622	HD171232	18 28.5	+25 25	01 24 20	01 45	00 23 W			
2623	Comp							FeNe Clear	60s
2624	Comp							"	60s
2625	HD182572	19 20.2	+11 44	01 52 25	02 01	00 13 E			
2626	Comp							FeNe Clear	60s
2627	BIAS (4)								
CC02628 2632	FLATS (x5)			02 20	02 30	00 50 W	+12°	TUNG Clear	60s
2633	Dark - 20m (while topping up)			02 36 33					

Spectr. Tem.

Focus.....

Spectr. Tem.

Exp. Mir.

5600

5000

15-20

Spectr. Temp. Dome Temp./Hum. $+12^{\circ}\text{C}$... 59%

Transparency Conditions... Fine..... 332
- thin cloudy

[illegible]

333 p9#1

Date .1991. JUNE 14/15 Observers .. Fds - Tn

Emulsion Batches:

..... Diff. 17 for sources
..... and F18.1N

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Fm 000360.Tn	HD126245	13 4311	+38 2333	20 28		00 05E		"N" mode	4x Int
CC02634	BIAS (4)			19 40 57					
2635	BIAS (4)			19 41 45					
CC02636 - 2645	FLATS 10			19 43 30			+45°		30s
CC02647 - 2656	FLATS 10			20 04 23			-25°		30s
CC02646	BIAS (4)								
2657	BIAS (4)			20 12					
CC02659	HD124897	14 11 06	+19 4230	20 4515	20 4705	00 14E		CC02658 FeA CC02660 Clear	30sec
2662	HD147933	16 1935	-23 1301	21 0010	21 4800	01 23E		CC02661 CC02663	" "
2665	"	"	"	22 3320	23 23	00 12W		CC02664 CC02666	" "
2667	"	"	"	23 2530	00 2540	01 15W		CC02668	" "
2670	HD174237	18 4429	+52 52 41	00 3330	01 1321	00 16E		CC02669 CC02671	" "
2673	HD193237	20 1406	+37 43 19	01 2135	01 51	01 11E		CC02672 CC02674	" "
2676	HD188439	19 5004	+47 3251	02 0100	02 4633	00 09W		CC02675 CC02677	" "
2678	"	"	"	02 4820	03 1225	00 34W		CC02679	" L1

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

31x31mm

350k

337k

34k

30800

-5000

04000

16750

7100

Spectr. Temp. Dome Temp./Hum. ^{+19°C 53%} ~~18%~~

Transparency Conditions ... ³³⁴ P.A.R.T. ... ~~Cloudy~~ - ~~hazy~~

Focus 6.85

CGH in = 30 510 0 80 1024 2 ^{1 CCD} ~~FWT~~

Spectr. Temp. Dome Temp./Hum.

Dome open & Fans on before 19:30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
31x31 pixels		✓ 6.95	KO III		1500	250μ no decker				Dome = SW no wind	
				CCD CASS	1800/43.2	250μ	4530A			* G=4578 (SW 9Kms/hr weather Radio)	
										2634 mean	188.68 σ = 7.57
										2635 mean	188.69 σ = 7.55
										Decker out for	
										F/4.5	
											188.13 σ = 7.62
											186.91 σ = 7.70
360K		I	KO III			250 (Longest Slit)			Std vel	guided (trilled)	
237K	3"	✓ 5.02	B2 IV		[8020404 sun AUG 0 + 10 ccds]				Fds - pyn	Abt south & bright comparant.	
34K	4.5"	"	"					2ci	"	After Bln tour.	
30,800	"	"	"					3ci	"	CCDT = -101.02°C	
45000	3"	✓ 5.88	B2.5 Ie					4ci	"		
94000	2.3"	✓ 4.88	B2 pe					5ci	"		
16,750	"	✓ 6.29	B0.5 III					6ci	"		
7,100	"	"	"					7ci	"	clouding in	

335 pg #2

Date 1991 JUNE 14/15 Observers Fds-Tg

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions . *PART. Cloudy* 336.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission λ	P.H.	Program	Remarks	Quality
				CCD CASS	1800/43.2	250 μ	4530 $\text{\AA}$			mean = 183,20 $\sigma = 7.92$	
										CCDT - 102.3 $^{\circ}$	
0/30					1800/43.2		4530 $\text{\AA}$			≈ 2 pixels Red (stellar)	
					All To Perseus		1 Cass			All CC Files to Worm	
										Stellar shift blue $< .5$ pixel for <u>6.60</u> setting	

337 pg #1

SUN-MON

Date 1991 JUNE 16/17 Observers Fds - Tu

Emulsion Batches:

..... Diff. 1N } for sources
 f. 18.5 to 11.1 }

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2683 -				16 50 30					
2685	3+ BIAS(4)			16 51 07					
2686 -				16 52 14					
2686	3+ DARK 30min								
2688 -									
2690	2+ BIAS(4)								
2691 -									
2693	3+ DARK 15m								
2694	BIAS(4)								
2695 -									
2704	10+ Flat	0 ^h	+45°00	19:49:31	-	0	+45°	clear Tung	40s
2705	BIAS(4)								
2706 -									
2715	10+ Flat	0 ^h	-24°20	20 09 56	-	0	-24°	clear Tung	40s
2716	BIAS(4)			20 21 40					
Fm ⁰⁰⁰ 361.T ₄	HD120245	13 4311	+38 23 33		20 40	00 15W	4 frames	'N' made	4x Int
CC02718	HD124897	14 1106	+19 42 30	20 51 25	20 56 53	00 03W	CC02717 CC02719	Fe A Clear	30sq
CC02721	HD174237	18 4429	+52 52 41	21 04 25	21 43 38	03 40 E	CC02720 CC02722	"	"
CC02724	HD147933	16 19 35	-23 13 01	21 51 56	22 37 08	00 26E	CC02723 CC02725	"	"
CC02726	HD147933	16 19 35	-23 13 01	22 38 54	23 14 45	00 12W	CC02725 CC02727	"	"
CC02728	HD147933	"	"	23 16 40	00 06 18	01 03 W	CC02727 CC02729	"	"

Spectr. Temp. Dome Temp./Hum. $+21^{\circ}\text{C}$ 75% Transparency Conditions ... Part. Cloudy 3.38
 Focus 6.60
 Spectr. Temp. Dome Temp./Hum.
 CG/min = 30
 FANS ON, DOME OPEN by 19:30 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	$1800/43.2$	250 μ	4530A			* G = 4578	2683 mean 192.66 $\sigma = 7.41$
											2684 mean 192.52 $\sigma = 7.42$
											2685 mean 192.36 $\sigma = 7.42$
											2689 mean 190.96 $\sigma = 7.44$
											2690 mean 190.81 $\sigma = 7.44$
											2694 mean 190.40 $\sigma = 7.45$
											2705 mean 188.79 $\sigma = 7.55$
											2716 mean 187.44 $\sigma = 7.62$
31x31	OK	V 6.95	KOIII			250 μ slit, no detector			seeing test	WSW thin cloud DOME SW, median NW wind	
350 K		I 5.88	KOIII						std vel	guided on longest slit	
30 000	3" 5"	V 5.02	B2IV						Fds open		
30 000	5"	V 5.02	B2IV					3ci	"	gorn a - unresolved fringes Sum AVG pgs 11, 858	
30 000	"	5.02	B2IV					4ci	"	20 cols	
35000	"	"	"					5ci	"	12 233	

339 p42

Date 1991 JUNE 16/17... Observers Fds - Tin.....

Emulsion Batches:

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[illegible]

Dome Temp./Hum. $+19^{\circ}\text{C}$ 83%

Transparency Conditions ... 51 6924 340

Focus... 6:60.....

Dome Temp./Hum. *+17.7°C...85%*

cloud at end
CPT was $\approx -102.5^\circ\text{C}$ through night.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30s	60 K	4"	4.88 [✓]	B2pe	CCD CHSS	1800/4362	250 _u	4530Å	6ci	Fds' pgrm	4/32 p C99	
9	30 K	3"	6.29 [✓]	B0.5III _n					7ci	"	5/6	
9	30 K	3"	5.88 [✓]	B2.5Ve					8ci	"		
9	30k.	2"	6.29 [✓]	B0.5III _n					9ci	"	To Persaus To 2739 incl	
9	30k	3.4"	6.29	B0.5III _n					10ci	"	To 460m To 2741 incl	
											CCDT = -100.6°C	2744 mean 184.61 σ = 7.78
40s										set 6-60, T = +17.7°C	2745 mean 184.57 σ = 7.79	
										All to Persaus \ Cuss	2746 mean 184.54	
										All CC Files now to uoam		

341

pg #1

mon-Tues

Date 1991 JUNE 17/18. Observers Fds. - T.

Emulsion Batches:

FANS OFF

..... D. H. S. or IN. 2 for comps
..... S. F. (8 Stop IN.) ... & Flats

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CC02747 2749	BIAS(4) 3				19 16				
CC02750 2752	DARKS 3								
2753	BIAS(4)								
CC02754 2758	FLATS						+45°		
2759	BIAS(4)								
CC02760 2764	FLATS						-24°		
CC02765	BIAS(4)			20 2830					
FM000362, Tn	HD120245	13 43 11	+38 23 33	20 40		00 20W		N ⁺ made	4x Int
CC02767	HD124897	14 11 06	+19 42 30	20 54 04	20 59 18	00 09W	CC02766 2768	Fe A clear	30s 30s
2770	HD 17 42 37	18 44 29	+52 52 41	21 07 45	21 45 09	03 36 E	2769 2771	n	n
2773	HD 147 933	16 19 35	-23 13 01	21 51 53	22 30 15	00 23 E	2772	n	n
2775	"	"	"	22 33 00	23 05 55	00 07W	2774	n	n
2777	"	"	"	23 08 27	23 39 42	00 41W	2776 2778	n	n
2779	"	"	"	23 42	00 16 03	01 17W	2780	n	n
2782	HD 184439	19 50 04	+47 32 51	00 23 40	01 02 51	01 24 E	2781 2783	n	n

Spectr. Temp. Dome Temp./Hum. $+21.3^{\circ}\text{C}$... 71%

Focus ... 6:60

Spectr. Temp. Dome Temp./Hum. $+18.4^{\circ}\text{C}$... 77%

Transparency Conditions ... OK ... some cloud ... 342

ODD Cumulus Cloud From the East
(unusual)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	1800/43.2°	250 μ	4530A			2747 mean =	190.77 $\sigma = 7.46$
										2748 mean = CCDT = -99.7 @ 20 EST	190.69 $\sigma = 7.48$
										2749 mean	190.62 $\sigma = 7.48$
						no detector				2753 mean	188.82 $\sigma = 7.54$
										2759 mean	198.96 $\sigma = 7.52$
						no detector					
										2765 mean	187.89 $\sigma = 7.61$
3133/p.m.		✓ 6.95	K0III			250 μ no detector			Seeing Test	NO WIND DOME WSW	
501100		✓ 1	K0III			250 μ (longest slit)			std vel	trailed in RA	
30 K	3	✓ 5.88	B2.5 Ve					9 ci	Fds pgn		
30 K	3"	✓ 5.02	B2 IV					9 ci	"	SOUTH COMP brt one of close db/	
30 K	"	"	"					10 ci	"		
30 K	"	"	"					11 ci	"		
30 K	"	"	"					"	"	HrL Limit is 01 18W	
30 K	2"-3"	✓ 6.29	B0.5 III					"	"		

343. #2

Date 1991 JUN 17/18.. Observers Fds - Pdr - Tr

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. 18.0/78.1 Transparency Conditions Fine 344

Focus 6.60

Spectr. Temp. Dome Temp./Hum. +1.7°C 82%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30s	60 000	2"	^V 4.88	B2pe	CCD CHSS	1800/43.2	250 μ	4530A	Fds pgm		
"	30 000		^V 6.29	B0.5II					Fds pgm		
"	30 000	"	^V 5.88	B2.5Ia					"	CK Dra	
"	30 000	42"	^V 6.29	B0.5II					"		
										mean	184.06
											$\sigma = 7.81$
											184.04
											$\sigma = 7.80$
											183.99
											$\sigma = 7.81$

345

Tue / We

Date 1991 June 18/19 Observers Fds/Pdr

Emulsion Batches:

FAW5 ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02799-2801	Bias (4)			18 48 12	18 57 18				
2802-2804	Darke 15m								
2805	Bias (4)			19 50 20					
2806-2810	Flat (x5)			19 52 58		0 ^h	+45		40s
2811	Bias (4)			20 03 39					
2812-2816	Flat (x5)					0 ^h	-24		
2817	Bias (4)			20 16 11					
FM000363	HD 120245	13 43 11	+38 23 33	20 36		0 19 W		'N' mode	4x Int
CC02819	^{pdr} HD 128897	14 11 06	+19 42 30	20 51 32	20 54 06		CC02818 CC02820 CC02821 CC02823	FeA Clear	30s
CC02822	HD 174237	18 44 29	+52 52 41	21 05 20	21 44 42	03 32 E	287		
CC02824	HD 174237				21 46 20				
CC02826	HD 147933	16 19 35	-23 13 01	21 54 29	22 44 36	00 10 E	CC02825 CC02827	FeA Clear	30s
CC02828	"	"	"	22 46 53	23 32 10	00 38 W	CC02827 CC02829	"	"
CC02831	HD 193237	20 14 06	37 43 19	23 40 12	00 29 46	02 17 E	CC02830 CC02832	"	"
CC02834	HD 188439	19 50 04	47 32 51	00 35 58	01 31 16		CC02833 CC02835	"	"

Spectr. Temp. Dome Temp./Hum. 21.1 / 78.1 Transparency Conditions Hazy... Part Cloudy
 Focus 6.60
 Spectr. Temp. Dome Temp./Hum. 20.1 / 83.8 346

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/43.2	250μ	G=4578 4530 Å		Dome T=	22.6 / 70.9% ; = Harndt $\bar{x} = 190.074$; 189.989 ; mean = 191.18 ; 191.08 ; 190.83	189.739
										22.2°C / 73.3% $\bar{x} = 188.858$ mean = 189.99	
										22.0°C / 74.1% $\bar{x} = 187.552$ mean = 188.64	
										21.8°C / 74.9% $\bar{x} = 187.444$ mean = 188.52	
4x Ext	31x31 pix	V 6.95	K0 III			250μ no deker			seeing test	Dome printing WSW light wind from E	
30s	300 000									Arcturus (trailed)	
	30 K	5.88	B2.5 Ve							$T_{CCD} = -101.1$ 20.6°C / 81.3% $\bar{x} = 188.271$	
30s	17800	3" V 5.102	B2 IV								
4	4750	" "	" "							clouds	
1	50 K	V 4.88	B2 pe						P Cyg	clouds	
1	20 K	V 6.29	B0.5 III								

347.

#2

Date 1991 June 18/19 Observers Fds - Pdr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
CC02837	HD 174237	18 44 29	52 52 41	01 38 20	02 28 20	1 13 W	CC02836	F ₄₅	30s
2839-2841	Bias (4)			02 32			CC02838	clear	30s
1991 June 19/20 Fds - Lin - Pdr									
We/Th									
CC2842-2844	Bias (4)			18:50:30					
CC02845-2847	Dark - 15 m								
2848	Bias (4)			19:43:56					
2849-2853	Flat (x5)					0 ^h	+45°		35s
2854	Bias (4)			19:58:23			+45°		
2855	Bias (4)			20:01:10			-24°		
2856-2860	Flat (x5)						-24°		
2861	Bias (4)			20:10:07					
FM000364	HD 120245	13 43 11	38 23 33	20:50				LOG Made	OK Int
FM000365	Pdr	"	"			0 41 W	0 41 W	N ₁ mode	4x Int

Spectr. Temp. Dome Temp./Hum. 19.3 / 88 % Transparency Conditions Hazy 348...

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
28 400	2"	V 5.88	B2.5	CCD Cass	1800/43.2	250μ	G=4578 4530A				
										19.1 °C / 88.6 % $\bar{x} =$	185.357 185.308 185.268
										mean = 186.56 186.51 186.47	
										Dome T Humidity	
				CCD Cass	1800/43.2	250μ	G=4578 4530A			24.9 °C / 61.5 % $\bar{x}$	194.488 194.250 194.200
										25.0 °C / 61.5 % 25.0 °C / 61.5 %	
										24.8 °C / 62.5 % $\bar{x} =$	193.863
										24.7 °C / 61.4 % $\bar{x} =$	193.827
										24.6 °C / 61.5 %	
										24.5 °C / 60.9 % $\bar{x} =$	192.124
31x31 p.s.x		V 6.95	Ko II							Dome pointing WSW light wind from N	
11		"	"								

All to Perseus + WORM

Dome temp/Hum 24.1 / 61.5 %

no
decker

349

#2

Date 1991 June 19/20 Observers Fds/Lin/Pdr

Emulsion Batches:

...FANS...OFF.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02863	HD 124897	14 11 06	19 42 30	21 05 27	21 06 40	0 25 W	CC02862 CC02864	FeAr Clear	30s
2865	HD 124897 Bias (4)			21 09 17		0 28 W	+19 11		
2867	HD 174237	18 44 29	52 52 41	21 17 38	21 50 31	3 22 E	CC02866 CC02868	FeAr Clear	30s
2869	Bias (4)			21 52 55		3 21 E	+52 58		
2871	HD 147933	16 19 35	-23 13 01	22 00 00	22 42 35		CC02870 2872	FeAr Clear	30s
2873	Bias (4)				22 46 12	0 04 E	-23 26		
2874	HD 147933	"	"	22 48 06	23 21 08	0 30 W	2872 2875	FeAr Clear	30s
2876	"	"	"	23 24 41	23 55 15	1 04 W	2875 2877	"	"
2878	Bias (4)			23 58 20		1 07 W	-23 26		
2880	HD 188439	19 50 04	47 32 51	00 05 56	00 45 55	0 18 E	CC02879 2881		
2882	BIAS (4)			00 48 49		1 30 E	+47 47		
2884	HD 193237	20 14 06	37 43 A	00 55 12	01 16 54	1 26 E	CC02883 2885	FeAr/ Clear	30s
2886	Bias (4)			01 19 51		1 23 E	+37 59		
2888	HD 188439	19 50 04	47 32 51	01 27 23	02 03 46	0 15 E	CC02887 2889	FeAr Clear	30s
2890	Bias (4)			02 06 30		0 12 E	+47 46		

Spectr. Temp. Dome Temp./Hum. 23.8/61.5% Transparency Conditions Patchy clouds 350
 Focus 6.60
 Spectr. Temp. Dome Temp./Hum. 20.3/56.4%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30s 150K		0.04	K1.5 III		1800/43.2	250μ	G=4578 4530A		Arcturus	Dome T/Humidity 23.8°C/61.5% $\bar{x}=192.787$	
30s 30K	2"	✓ 5.88	B2.5 IVe						Cx Dra	23.2°C/60.1% $\bar{x}=193.178$	
30s 30K		✓ 5.02	B2 IV					5 ci		22.3°C/61.5% $\bar{x}=190.103$	
30s 30K		"	"					6 ci			
30s 30K	4"	"	"					7 ci			
30s 30K	3"	✓ 6.29	B0.5 III					8 ci		t=21.4/64.6% $\bar{x}=188.627$	
30s 50K		4.88	B2 po					9 ci		21.8/61.5% $\bar{x}=188.034$	
30s 30K	3"	6.29	B0.5 III					10 ci		20.6/62.3% $\bar{x}=188.445$	
										20.4°C/56.3% $\bar{x}=187.619$	

351

#3

Date 1991 June 19/20 Observers Fds/Lin/Pdr

Emulsion Batches:

..... Diff. f. 18.11
..... for sources.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02892	HD 174237	18 44 29	52 52 41	02 14 59	02 53 34	1 42 W	CC02891 CC02893	FeAr Clear	30s
2895	HD 188439	19 50 04	47 52 51	03 03 10	03 40 42	1 23 W	CC02894 2896	" "	"
2897-2899	Bias (4)			03 43 36		1 26 W	47 47		
Pg #1	1991 JUNE 20/21 Thurs - Fri Fds/Lin/Pdr/Tn								
CC02900	BIAS(4)			19 11 10		0 0 HA	+45°	rH=47.96	
02902				19 12 24					
02903				19 13 50					
2905	DARKS			19 14 00					15min
CC02906	BIAS(4)			20 04 57		0 0 HA	+45°	rH 47.7	15min
CC02907 - 2918	FLATS			20 10 50		0 0	+45°	TUNG CLEAR	35s
CC02912	BIAS(4)			20 19 10		0 0	-24°	rH 48.8	
CC02913 2917	FLATS			20 21 10			-24°	TUNG CLEAR	35s
CC02918	BIAS(4)			20 30 20			?	rH 48.8	
FM000366	HD 120245	13 43 11	38 23 33	20 13 9		0 27 W		W1 made	4x Int
CC02920	HD 174237	18 44 29	+52 52 41	20 51 05	21 36 25	03 33 E	CC02919 CC02921	FeAr CLEAR	30sec
CC02922	BIAS(4)			21 36 52		03 30 E	+52 58	rH 47.76	

Spectr. Temp. Dome Temp./Hum. 20.2/56.9% Transparency Conditions Clear 352

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
50K	3"	V 5.88	B2.5	CCD CASS	1800/43.2	250 μ	G=4578 4530A	11 ci	Cx Dra		
30K		V 6.29	B0.5	II				12 ci		Dome T / Humidity	
										19.6 °C / 59.4% $\bar{x} = 186.395$	
										19.5 °C / 59.4 $\bar{x} = 186.222$	
										19.5 / 59.4 $\bar{x} = 186.205$	
<u>All to Plusus + WORN</u>											
Dome T = +23.2 ^{+24.0} °C	at START, Focus still 6.60			CCD CASS	1800/43.2	250 μ	G4578 4530A	λ central			
										$\bar{x}$ +24.3 193.44 +24.3 193.176	
										Dome T = +24.2 193.69	
										Dome T +23.4 °C $\bar{x}$ 191.291	
no decker											
										$\bar{x} = 189.989$	
										Dome T = +23.0 °C	
no decker											
										$\bar{x} = 191.275$	
										Dome T = +22.8 °C	
31x31 pix		V 6.95	K0 II	4 Frames		250 μ no decker				Light N W wind Dome W SW (N 11 km/hour)	
	2'-3"	V 5.02	B2 IV			550 μ (2nd longest slit)			seeing Test Fds ppm cloudy		
										CCDT = -102.2 °C Dome T = +21.6 °C $\bar{x} = 190.276$	

353

pg 2

Emulsion Batches:

Date 1991 JUN 20/21... Observers ... Fds. - Tn - Lin - Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02924	HD 124897	14 11 06	+19 42 30	21 46 39	21 49 13	01 11 W	CC02923 CC02925	FeA clear	30s
CC02926	BIAS (4)			21 51 05		01 14 W	+19 12	rH 48%	
CC02928	HD 193237	20 14 06	+37 43 19	22 31 61	22 54 08	03 45 E	CC02927 CC02929	FeA clear	30sec
2930	BIAS (4)			22 56 41		03 48 E	+38		
2932	HD 174237	18 44 29	52 52 41	23 03 03	23 38 52	01 30 E	CC02931 CC02933	FeA clear	30s
2934	BIAS (4)					01 27 E	+53		
2936	HD 188439	19 50 04	47 32 51	23 46 19	00 25 22	01 49 E	CC02935 CC02937	FeA clear	30s
2938	BIAS (4)			00 28 29		01 40 E	+47		
2940	HD 193237	20 14 06	+37 43 19	00 33 24	00 53 47	01 46 E	CC02939 CC02941	FeA clear	30s
2942	BIAS (4)					01 43 E	+38		
2944	HD 174237	18 44 29	+52 52 41	01 03 08	01 40 47	00 32 W	CC02943 CC02945	FeA clear	30s
2946	BIAS (4)					00 35 W	+53		
2948	HD 188439	19 50 04	47 32 51	01 50 23	02 12 10	00 02 E	CC02947 2949	FeA clear	30s
2950	BIAS (4)					00 02 W	+48		

Spectr. Temp. Dome Temp./Hum. 72.7° 48%

355

Emulsion Batches:

Date Observers

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[illegible]

356

anson
Exp

51

blaze centered at about 18.00° on echelle (echelle grating tilt)

